The Chubu region

Location

- The Chubu region
- Major aerospace companies in Chubu
- Data on the aerospace industry in Chubu

Main Products in Chubu

Company Profile

Information

- Greater Nagoya Initiative Center (GNIC)
- Chubu Aerospace Industrial Technology Center (C-ASTEC)

Major aerospace companies in Chubu

- Kawasaki
- Mitsubishi Heavy Industries LTD
- Nabtesco
- SINFONIA
- Subaru
- Toyota Boshoku
- Toray

Data on the aerospace industry in Chubu

- 5.96 billion ($)
- 172 companies with JISQ9100 certification
- 44 companies with Nadcap certification
- 22,254 highly skilled workers

2014FY (¥1 @ ¥120)
2015 December
2015 December
2013FY

Not included Nagano/Shizuoka prefectures
MRJ (Mitsubishi Regional Jet)

- The new aircraft made in Japan will soon be flying around the world.
- The first test flight was successfully completed on 11 November 2015.
- The first delivery is expected in 2018.

Resource: Mitsubishi Aircraft Corporation

Airframe

35% of the Boeing 787 airframe is manufactured by Mitsubishi, Kawasaki, and Fuji Heavy Industries, Ltd.

- Forward Fuselage (Composite) by Kawasaki
- Wing Fixed Trailing Edge (Composite) by Kawasaki
- Center Wing (Composite) by Fuji
- Main Landing Gear Wheel Well (Composite) by Kawasaki

Resource: JADC

Engineering

- Nabtesco: Elevator Power Control Unit, Aileron Power Control Unit, Actuator Control Electronics
- Sinfonia Technology: Linear servo actuator for the launch vehicle
- Tamagawa Seiki: Sensors and motors for aircraft

Resource: Mitsubishi Heavy Industries, Ltd.

Equipment

- Nabtesco: Elevator Power Control Unit, Aileron Power Control Unit, Actuator Control Electronics
- Sinfonia Technology: Linear servo actuator for the launch vehicle
- Tamagawa Seiki: Sensors and motors for aircraft

Resource: Nabtesco

Engines

The Trent XWB and Trent 1000 are engines of Rolls-Royce’s Trent series. Mitsubishi Heavy Industries Aero Engines, Ltd. and Kawasaki Heavy Industries, Ltd. have participated in these programs as risk-sharing partners.

Resource: Rolls-Royce plc

Seats

Toyota Boshoku jointly developed with All Nippon Airways the Boeing 767 economy class seats for domestic flights.

Resource: TOYOTA BOSHOKU CORPORATION

CFRP

TORAY supplies CFRP prepreg material exclusively to Boeing.

Resource: TORAY INDUSTRIES, INC.
<table>
<thead>
<tr>
<th>No.</th>
<th>Company Name</th>
<th>Remarks of 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AERO INC.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>AIKOKU ALPHA CORPORATION</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>AKEVONO INDUSTRY CO., LTD.</td>
<td></td>
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<tr>
<td>4</td>
<td>APC AEROSPECIALTY INC.</td>
<td></td>
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<tr>
<td>5</td>
<td>Asahi Kinzoku Kogyo Inc.</td>
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</tr>
<tr>
<td>6</td>
<td>Chubu Nihon Maruko Co., Ltd.</td>
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<tr>
<td>7</td>
<td>CHIO ENGINEERING CO., LTD.</td>
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<tr>
<td>8</td>
<td>CHUOZUKEN, CO., LTD.</td>
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<tr>
<td>9</td>
<td>CRE Co., Ltd.</td>
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<tr>
<td>10</td>
<td>Enomoto BeA Co., Ltd.</td>
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<tr>
<td>11</td>
<td>FUSO MACHINE WORKS, LTD.</td>
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</tr>
<tr>
<td>12</td>
<td>HKARI MANUFACTURE CO., LTD.</td>
<td></td>
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<tr>
<td>13</td>
<td>HODIN SEWTSU KAKO KENYUSHO CO., LTD.</td>
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<tr>
<td>14</td>
<td>MAI AEROSPECIALTY MFG, CO., LTD.</td>
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<tr>
<td>15</td>
<td>OSAKI Kogyo Co., Ltd.</td>
<td></td>
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<tr>
<td>16</td>
<td>ITO SEWTSU CO., LTD.</td>
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<tr>
<td>17</td>
<td>Kakamigahara Aero Equipment Co., Ltd.</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>KATO MANUFACTURING CO., LTD.</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Kondo Machine Corporation</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>KOSAKA IRON WORKS, CO., LTD.</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Koyama Chemical Co., Ltd.</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Matsuura Co., Ltd.</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Matsuura Machine Co., Ltd.</td>
<td></td>
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<tr>
<td>24</td>
<td>MIZUNO METAL WORKS CO., LTD.</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Asahi Kogyo Kogyo Inc.</td>
<td></td>
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<tr>
<td>26</td>
<td>OhioGRINDING CO., LTD.</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Ryoku Tool Company, Ltd.</td>
<td></td>
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<tr>
<td>28</td>
<td>SANKO MFG CO., LTD.</td>
<td></td>
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<tr>
<td>29</td>
<td>Sinfonia Technology Co., Ltd.</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>TAKAGI CHEMICALS, INC.</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>TAKAGI INDUSTRY CO., LTD.</td>
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<tr>
<td>32</td>
<td>Toyota Electric Co., Inc.</td>
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<tr>
<td>33</td>
<td>TAKAGI INDUSTRY CO., LTD.</td>
<td></td>
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<tr>
<td>34</td>
<td>TAMADIC Co., Ltd.</td>
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<tr>
<td>35</td>
<td>TAMAGAWA INDUSTRIES, LTD.</td>
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<tr>
<td>36</td>
<td>TAMAGAWA SEIKI CO., LTD.</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>TANIDA LTD.</td>
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<td>38</td>
<td>TECH SASAI CO., LTD.</td>
<td></td>
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<tr>
<td>39</td>
<td>TEKUMA Co., Ltd.</td>
<td></td>
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<tr>
<td>40</td>
<td>TENRYU AERO COMPONENT CO., LTD.</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>TOH-WEI GROUP (TOHWEI Ind.)</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>TOYOH KUBIOSHUI CO., LTD(TKO)</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>TOYO SEIKO Co., Ltd.</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>TOYOTA BOSHOKU CORPORATION</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Tsuchiya Group</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>Usetech, Co., Ltd.</td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>WADA AIRCRAFT TECHNOLOGY Co., Ltd.</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>Yamaichi Special Steel - PRISMA JAPAN</td>
<td></td>
</tr>
</tbody>
</table>
Outline of Business

- Construction and assembly of aircraft
- Painting of aircraft
- Design and production of assembly jigs

Our Strengths

- Concentrating AERO's skills and knowhow
  AERO's collective skills and expert knowledge all come together in assembly, the company’s core business. The quality of aircraft comprising tens of thousands of parts and components is supported by the assembler’s sense of mission in aircraft construction, along with skills developed through constant improvements.

- Dedicated paint booth helps shorten delivery times and reduce costs
  Upon noticing productivity losses in the transport part of “assembly-transport- painting” in outsourced painting jobs, we immediately purchased customized painting booths designed especially for painting aircraft bodies. This reduces the time between the assembly and painting stages while lowering costs.

- Global standard quality assurance
  Before establishing any of our quality maintenance check systems, from human resources training to improve skills and awareness to decisions on work procedures designed to ensure uniform quality, we acquired certification of JIS Q 9100 and JIS Q 9001, the global benchmarks for quality standards, superseding other quality management systems based on rigid rules.

Facility & Equipment

- Paint Booth
  Manufacturer: SAICO (Italy)
  System: Downdraft spray booth
  Dimensions: Sanding booth 6200mm×6700mm
  Paint booth: 6200mm×6700mm, 8200mm×6700mm
  Drying booth: 15200mm×6700mm

Organization

Employees: 500

Company Profile / Contact

Representative: Noriyuki Wada, President
Capital: US$208,333
Major Customers: MHI, FHI, KHI
Address: 2-65-27 Kusunoki, Yatomi, Aichi 498-0066, Japan
TEL: +81-567-66-3501
E-mail: contact@aeross.jp
Company Profile

AIKOKU ALPHA CORPORATION
アイコクアルファ 株式会社

CERTIFICATION  JIS Q 9100:2009, TS 16949:2009, ISO 14001
WEBSITE  http://www.aikoku.com

Outline of Business

- Founded in 1943
- Started AP Division in 1969

Products

- Aero structure parts
  - Ribs, Inspa-ribs, Beams, Hinges, Trunnions, Fittings
- Aero Engine parts
  - Engine cases, Frames, Blisks, Diffusers
- Impellers
  - Compressor wheels for Gas turbines, Turbochargers

Our Strengths

- We are the first company to introduce 5-axis machining center in 1975 in Japan.
- Our company is leading 5-axis technology, and have a wealth of experience in making complex aerospace, industrial and automotive parts. We have developed original cutting know-how utilizing a 3-D CAD/CAM system (CATIA), and aim to become the world’s leading 5-axis machining company. (CATIA is a trademark of Dassault Systems.)

Facility & Equipment

- 5-axis machining centers: More than 110
  - MAKINO: T1, MAG1, a61-5x, D300
  - MITSUI: HS6A-S, HU63T, HU5O7, HSSA-S, VERTEX550
  - MAZAK: VORTEX1400, e1080
  - OKUMA: VMP16, M1000VH, M900VH
  - DMG MORI: DMU200P

Organization

APST (Aero-Structure Parts Team)
AS1G (Sales & Production Control Group)
AE1G (Engineering Group)
AP1G (Manufacturing Group)
AQCT (Quality Control Team)
APDT (Development Technology Team)

Sales Amount

Specialties

Aikoku Alpha AP Division is a leading 5-axis manufacturer offering advanced design skills, cutting technology, anti-vibration system by Fourier analysis, and advanced CAD/CAM tool-path program supported by the MS Division.

Materials: Aluminum, Titanium, Nickel, Stainless steel
Part sizes: Plate: up to 12,000mm x 4,000mm, Impeller: up to Φ1,800mm

Company Profile / Contact

Representative  Katsufumi Hida, President
Capital  US$10.0 million ($1 = ¥120)
Major Customers  Mitsubishi Heavy Industries, Ltd.
                  Fuji Heavy Industries, Ltd.
                  ShinMaywa Industries, Ltd.
Address  Morikami, Sobue-cho, Inazawa,
         Aichi 495-8501, Japan
TEL  +81-587-97-1115
E-mail  a-kawaguchi@aikoku.com
Score Company Profile

AKEVONO INDUSTRY CO., LTD.
曙工業 株式会社

CERTIFICATION
ISO 9001, ISO 14001, JIS Q 9100 (scheduled in 2016)

WEBSITE
http://www.akevono.co.jp

Outline of Business
- Small & medium size aircraft parts
- Automobile trial products
- Precision machinery parts processing
- Equipment parts processing, robot parts, machine tool parts processing

Our Strengths
Delivering high-quality products through efficient equipment and state-of-the-art knowledge

- First we propose the production method, then fix the production process together with the customer.
- Superior processing technology
  1) JR Maglev superconducting magnet cooling equipment
  2) Humanoid robot exhibited at Aichi Expo 2005
  3) Special bolts
- Flexible customer service
  Meeting the needs of customers, such as lot production, rapid delivery, low price

Facility & Equipment

<table>
<thead>
<tr>
<th>Machine</th>
<th>Maker</th>
<th>Model name</th>
<th>X-axis Y-axis Z-axis</th>
<th>Type</th>
<th>Introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal spindle machining centers</td>
<td>JTEKT Corporation</td>
<td>FH550SX</td>
<td>750x800x850mm</td>
<td>500x500 (pallet dimensions)</td>
<td>Jul. 2008</td>
</tr>
<tr>
<td>Vertical spindle machining centers</td>
<td>Matsuura Machinery Corporation</td>
<td>MX520</td>
<td>630x560x510mm</td>
<td>5-axis</td>
<td>Jan. 2014</td>
</tr>
<tr>
<td>Vertical spindle machining centers</td>
<td>BROTHER</td>
<td>M140x1</td>
<td>200x440x305mm</td>
<td>5-axis</td>
<td>Nov. 2014</td>
</tr>
<tr>
<td>Vertical spindle machining centers</td>
<td>DMG MORI Co., Ltd.</td>
<td>DMU100</td>
<td>1000x1250x1000mm</td>
<td>5-axis</td>
<td>Nov. 2015</td>
</tr>
<tr>
<td>NC lathes</td>
<td>Okuma Corporation</td>
<td>LB300</td>
<td>Drum type</td>
<td></td>
<td>Mar. 2007</td>
</tr>
<tr>
<td>CNC cylindrical grinders</td>
<td>JTEKT Corporation</td>
<td>GL4P-S50 III</td>
<td>Distance between centers 500mm</td>
<td>Aug. 2013</td>
<td></td>
</tr>
</tbody>
</table>

Sales Amount
US$12M ($1= ¥120)

Important Information / Notices
Akevono Industry meets customers’ needs and solves problems.
We help to create “monozukuri” products and machine tools for the aircraft and automobile industries.
We offer outstanding products at reasonable prices.

Company Profile / Contact

Representative
Akitaka Sugiyama

Capital
US$284,000

Major Customers
AISIN Group
JTEKT Corporation
Hoshizaki Electric Co., Ltd.

Address
55-1 Minamiutaguchi, Satomachi,
Anjo, Aichi 446-0001, Japan

TEL
+81-566-97-0677

E-mail
tetsuharu@akevono.co.jp
**APC AEROSPECIALTY INC.**

**APCエアロスペシャルティ 株式会社**

**CERTIFICATION**

- JIS Q 9100, JIS Q 14001, Nadcap (Nonconventional Machining)

**WEBSITE**

[http://www.apc-aero.co.jp](http://www.apc-aero.co.jp)

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**Outline of Business**

- **Jet engine parts manufacturing using electrochemical machines (ECM)**
- **Precise machining using precision electrochemical machines (PECM) for high dimensional and repeat accuracy**
  - Burr-free surface
  - No thermal damage
  - No tool wear
  - Capable of machining complex shapes in extremely hard materials

- **Heavy-duty containerization systems for satellite and space development equipment**
  - Full production of reusable shipping and storage containers
  - Design, integration, testing and analysis
  - Satellites, military and commercial engine modules, missiles, and precision electronic equipment
  - Helical cable isolator for shock and vibration attenuation
  - Container accessories such as breather valves, humidity indicators, desiccant baskets, and record holders
  - Jigs and fixtures

- **Subassembly of civil and military aircraft panels**
- **Repair of aircraft panel components**

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**Works**

- **Gifu**
  - Machining, electrochemical machining
  - Building deburring and surface finish equipment

- **Kagamigahara**
  - Heavy-duty containers
  - Sophisticated painting

- **Yamazaki**
  - Aircraft panel subassembly

---

**Company Profile / Contact**

- **Head Office**
  - 1-8-15 Iwamoto-cho, Chiyoda-ku, Tokyo 101-0032, Japan
  - TEL +81-3-5820-1831
  - Fax +81-3-5820-1839
  - E-mail overseas@apc-aero.co.jp

- **Established**
  - December 1957

- **Capital**
  - 210 million yen

- **Employees**
  - 450
Asahi Kinzoku Kogyo Inc.
旭金属工業 株式会社

CERTIFICATION
Nadcap, JIS Q 91000, ISO 9001

WEBSITE
http://www.asakin.com/

Outline of Business

- Manufacture of airplane parts for Boeing, Airbus, Bombardier, MRJ, etc.
  Aerospace-related products account for 96% of our total production.
- Machining, shot-peening, non-destructive testing, surface treatment (plating, anodizing), painting, sub-assembly

Our Strengths

- We implement all special processes in vertically integrated production (“One-stop Shop”).
- Special processes approved by individual customers
- The first company in Japan to receive Nadcap accreditation
- Nadcap accreditations for non-destructive testing, shot-peening, chemical processing and thermal spray coating
- Advanced technology for thermal spray coating (HVOF: High Velocity Oxygen Fuel)

Facility & Equipment

Facilities
- Headquarter plant, Kyoto-South plant, Gifu-Anpachi plant, Gifu-300 year Plant, Gifu-East Plant

Equipment
- Shot-peening ............. Shot-peening equipment (impeller type and nozzle type)
- Anodizing ................. Chromic acid anodizing, sulfuric acid anodizing, boric-sulfuric anodizing, hard anodizing, hard anodizing with Teflon impregnated
- Thermal spray coating HVOF equipment with spray guns DJ2700 and DJ2600
- Inspection ............... Penetrant inspection equipment, salt spray test cabinet, rupture (hydrogen embrittlement) evaluation, tensile strength (adhesion strength)

Vertically Integrated Production

Machine processing
Non-destructive testing
Shot-peening
Sub-assembly
Paint
Surface treatment

Sales Amount

6,405,542,000 yen
(Sept. 2013 – Aug. 2014)

Social Contributions

We built the Anpachi Sky Wall for free climbing at the Gifu-Anpachi Plant, which is enjoyed by both employees and locals.

Company Profile / Contact

Representative
Yasuhiro Yamanaka

Capital
US$829,166

Major Customers
Mitsubishi Heavy Industries, Shimadzu Corporation, Kawasaki Heavy Industries

Address
Gifu-Anpachi Plant, 4851-4 Maki, Anpachi-cho, Anpachi-gun, Gifu 503-0125, Japan

TEL
+81-584-64-5061

E-mail
asakin@akg.co.jp
Outline of Business

Chubu Nihon Maruko (NCAGE: SKY48) is a Japan-based technology company specialized in the engineering and manufacture of interconnection products for aerospace, defense, and industrial markets.

Established in 1990, today Chubu Nihon Maruko is one of the most experienced domestic companies in the industry, earning a reputation for supplying highly reliable interconnection solutions.

CNM’s expertise includes MIL standard connectors, customized harness assemblies and connectors for defense and aerospace systems.

As an interconnection expert, CNM has served as a solution provider for critical missions such as H-IIA, H-IIB launcher vehicles, HTV and HAYABUSA.

Our Strengths

- **Connectors**
  - MIL standard connectors (MIL-DTL-83513 micro miniature connectors & MIL-DTL-38999 SIl & SIII circular connectors)

- **Customized harness assemblies**
  - Design and development of harness assemblies for harsh environmental applications

- **Fiber optic interconnection solutions for aerospace applications**
  - Fiber optic connectors and converters

- **Rotary Link Connector® (non-contacting opto-electronic rotary joint)**
  - >3Gbps data transmission through rotational interface with continuous 360 rotation

Featured Product

- **Rotary Link Connector® (RLC), a non-contacting opto-electronic rotary joint**
  - Rotary Link Connector® (RLC) is a non-contacting opto-electronic interconnection device for high-speed signal transmission and power supply through a rotational interface that allows 360-degree rotation between stator and rotor section.
  - **Applications**: airborne surveillance camera, radar, robotics

Sales Amount

US$12 Million

Organization

Employees: 132
- Production
- Production Control / Procurement
- Engineering / R&D
- Quality Control
- Sales / International Sales
- Administration

Kobe sales office

Company Profile / Contact

Representative
Hiroyuki Koitabashi; President

Capital
US$330,000 ($1 = ¥120)

Major Customers
Mitsubishi Heavy Industries, Ltd.
Kawasaki Heavy Industries, Ltd.

Address
23-3, Noguchi, Komaki, Aichi
485-0806, Japan

TEL
+81-568-79-6512

E-mail
m_koitabashi@cnmaruco.co.jp
Outline of Business

- Design, analysis and testing in the development of aerospace products

Our Strengths

- We have worked to expand and enrich aerospace engineering for over 50 years.
- We currently employ over 300 engineers in many different projects related to the aerospace industry.
- We focus primarily on the design and analysis of aircraft, aerospace engines, and aerospace equipment, and offer specialized services to the development of various aircraft and space projects across Japan.

Facilities & Equipment

Analysis tools:
- MSC Nastran
- Patran / Femap
- Marc
- Adams
- NASGRO
- FLUENT
- HyperWorks

Design tools:
- 3D CAD
- CATIA V4, V5
- Creo
- NX (UG)
- SolidWorks
- I-CAD/SX

Testing equipment:
- Design & manufacturing
- Testing support

Analysis:
- Various type of analysis
- Fatigue and damage tolerance
- FEM modeling and analysis
- Fluid and thermal analysis

Total Integrated Design

Design:
- Airframes, systems, interiors
- Layout and detail design
- Design for manufacturing
- Production and maintenance tools

Design tools:
- 2D CAD
- Micro CAD
- Auto CAD
- CAD PAC
- CCD

Organization

Sales Amount

US$36.7 million (fiscal 2014)

Company Profile / Contact

Representative
Yoshihiro Saita, President

Capital
US$0.97 million (including capital reserve)

Major Customers
Mitsubishi Heavy Industries, Ltd.
Mitsubishi Aircraft, Ltd.
Kawasaki Heavy Industries, Ltd.

Address
Sogo Bldg., 1-12-14 Kanayama, Naka-ku, Nagoya, Aichi 460-0022, Japan

TEL
+81-52-324-4770

E-mail
aerospace@chuo-eng.co.jp
CHUOZUKEN. CO., LTD.
株式会社 中央图研

Outline of Business

- **Design**
  - Aircraft design
  - Automobile design

- **CAE**
  - Crash analysis
  - Vibration analysis
  - Noise analysis
  - Strength analysis
  - Fluid analysis

- **Technical Publication**
  - Aircraft manual development (ATA iSpec2200/S1000D)
  - Electronic manual development (DITA/XML/SGML)

- **System Development**
  - Web contents creation
  - DTP

Our Strengths

- **CAE**
  - 30 years of experience in automobile structural analysis and thermo-fluid analysis
  - 10 years of experience in aircraft structural analysis

- **Technical Publication**
  - Compliance with ATA iSpec2200 and S1000D (aviation standards)
  - English manuals, authored in full compliance with Simplified Technical English (ASD-STE100)
  - 15 years of experience in electronic documents in XML or SGML format
  - Data constructed using PTC products (We are a licensed PTC software reseller.)

Facilities & Equipment

<table>
<thead>
<tr>
<th>Design</th>
<th>CAE</th>
<th>Technical Publication</th>
<th>System Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATIA V5</td>
<td>HyperWorks, Nastran, Primer</td>
<td>PTC Arbortext</td>
<td>VB, .Net, C, C++, C#, Java</td>
</tr>
</tbody>
</table>

Sales Amount

US$12,833,000
(fiscal year 2014)

Organization

General Affairs Department
Engineering Department
1st Engineering Section
2nd Engineering Section
Planning Department

Important Information / Notices

Are you planning to do business with a Japanese company?
Do you need to create aircraft manuals conforming to aviation standards?
We offer a total solution for coordinating with prime or tier vendors regarding technical publication and customer support.
We also provide structural design optimization supported by our design department.
Why not improve the quality and growth of your products with our service backed by solid performance and experience?

Company Profile / Contact

Representative
Masashi Yanagida

Capital
US$166,666 ($1 = ¥120)

Major Customers
Mitsubishi Heavy Industries,
Mitsubishi Aircraft Corporation,
Mitsubishi Motors Corporation,
Nabtesco Corporation

Address
15-20 Furukawa-cho, Naka-ku, Nagoya, Aichi 460-0025, Japan

TEL
+81-52-323-2100

E-mail
info@chuozuken.co.jp

WEB SITE
http://www.chuozuken.co.jp
CRE Co., Ltd.
株式会社 シーアールイー

CERTIFICATION
JISQ9001 : 2008 (ISO9001 : 2008), MSJ4000

WEBSITE

Outline of Business

Focused on gaining customer trust, CRE offers engineering support in the areas of aircraft structural design, structural analysis, electrical and electronic design, software development, device design, productivity-focused process design, and quality assurance.

CRE prepares and edits a variety of manuals. We also perform contracted projects associated with documentation, such as electronic conversions of documents and translations of technical documents and manuals.

Our Strengths

- CRE has been involved in nearly all of the major development projects in the Japanese aerospace industry, while building upon the strong relationships with aircraft manufacturers.
- CRE has experience in the design and development of almost all major components of aircraft.
- Our skilled engineers, with 30 years of experience in aircraft design and development, are assigned to key roles in projects in order to manage the projects and provide training and guidance to younger engineers.

Facilities & Equipment

CATIA V4 ........................................... 11
CATIA V5 ........................................... 18
CADAM ........................................... 8
Solid Works ........................................ 1
MD NASTRAN DESKTOP .................. 3
LS-DYNA ........................................... 1
HYPER WORKS ................................ 1
FEMAP WITH NASTRAN ..................... 1
NX13300 MACH3 ................................ 1

Sales Amount

Organisation

Employees: 640
Head Office
(Accounting Dept., General Affairs Dept., Personnel Dept., PR and Planning Dept.)
- Gifu Div.
- Nagoya Div.
- Aerospace Development Div.
- QA Div.
- Analysis Div.
- JIG Div.
- System Solution Div.
- Engineer Training Center
- Audit Office

Sales Amount

($1 = ¥120)

Company Profile / Contact

Representative
Osamu Owaki

Capital
US$0.7375 million ($1 = ¥120)

Major Customers
MHI, KHI, FHI, IHI, SMIC, NIPPI, MITAC

Address
1-2-2 Kanayama, Naka-ku,
Nagoya, Aichi 460-0022, Japan

TEL
+81-52-323-7731 (main number)

E-mail
pr_info@cre-nagoya.com
**Outline of Business**

“Better support through superior technology”

We challenge the most advanced technologies with innovation and expertise to provide our customers with the most cutting-edge and on-time industrial solutions.

- R&D, Design, Product Engineering - analysis and optimization of aircraft parts and structures. (shown right)
- Quality Assurance - supporting functional and flight testing, and posttest data analysis.
- Software Development - numerical control machining.

**Our Strengths**

- Our employees work harder and go further to satisfy and exceed the needs of our customers with a company-wide mission to always look from the customer’s viewpoint to provide the best possible service and make an indispensable contribution to our clients’ success. DSE knows that the partnerships we build with our customers are changing the world by building a better tomorrow with technology and innovation, and we are committed to this endeavor.

- We have the right people with the right flexibility to meet the specific technical demands of our customers. We have over 600 employees with a wide range of experience, backgrounds, and know-how in both business and technical fields such as: marketing, aerodynamic design/analysis, production engineering and quality assurance relating to development programs in aerospace, automobile, industrial machinery and software.

**Software**

CATIA V5, NX, TeamCenter (CAD Software and Tool)  
HyperWorks (Structural Analysis and Optimization Tool)

**Organization**

- President
- The First Engineering Dept. - Aircraft System and Analysis
- The Second Engineering Dept. - Aerospace and Engine System Design
- The Third Engineering Dept.
- The Fourth Engineering Dept.
- The Fifth Engineering Dept.
- General Affairs Dept.
- Planning and Management Dept.

**Revenue**

5.0 billion yen (as of March 2015)

**Company Profile / Contact**

**Representative**  
Atsushi Matsui, President

**Capital**  
90 million yen

**Major Customers**

- Mitsubishi Heavy Industries, Ltd.
- Kawasaki Heavy Industries, Ltd.
- Fuji Heavy Industries Ltd.
- Mitsubishi Aircraft Corporation
- Toyota Motor Corporation
- Daifuku Co., Ltd., Denso Techno Co., Ltd.

**Address**

4F Green Bldg. 1-16-20 Nishiki  
Naka-ku, Nagoiya, Aichi 460-0003, Japan

**TEL**

+81-52-204-1380

**E-mail**

Planning and Management Department Office Chief: kazuyuki-mizutani@dse-corp.co.jp
Company Profile

Enomoto BeA Co., Ltd.

Certification: JISQ9100, ISO9001
Website: http://www.enomotoweb.com

Outline of Business
- Manufacture of aerospace-related components and design, produce, fixtures for machining.
- Develop, design, manufacturer and provide machine protection products.
- Research, develop, manufacture and provide environment-related projects and products.

Our Strengths
- We stand out amongst our competitors by specializing in many state of the art double column machining centers and large sized 3-axis and 5-axis machines.
- We currently have a sufficient number of skilled NC programmers and can react quickly to increase CAD/CAM (Catia) systems when necessary.
- Due to our 60 years of accumulated experience in the aerospace industries, our excellent technology to perform highly difficult precision manufacturing and quality assurance systems are highly appreciated by leading heavy industries.
- We develop our own machine protection products including (chip conveyors and telescopic way covers) which lead the market with a share of over 30% in Japan.
- We locate in Kakamigahara, Gifu which is a major aerospace industry center in the Tokai district.

Facility & Equipment

<table>
<thead>
<tr>
<th>Type of Machining</th>
<th>Number of Machines</th>
<th>Manufacturer</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Axis Machining Center</td>
<td>1</td>
<td>MAKINO</td>
<td>X:8,200mm×Y:2,200mm×Z:650mm, Spindle Motor 120Kw, Spindle speed 33,000rpm</td>
</tr>
<tr>
<td>5-Axis Machining Centers</td>
<td>9</td>
<td>OKUMA</td>
<td>X:3,050mm×Y:850mm×Z:750mm, Spindle Motor 45/55Kw Spindle speed 12,000rpm</td>
</tr>
<tr>
<td>5-Axis 2-Spindles Machining Centers</td>
<td>2</td>
<td>TOSHIBA</td>
<td>X:12,000mm×Y:4,000mm×Z:800mm, Spindle Motor 45/55Kw Spindle speed 12,000rpm</td>
</tr>
<tr>
<td>5-Axis Machining Center</td>
<td>1</td>
<td>OKUMA</td>
<td>X:11,500mm×Y:3,200mm×Z:800mm, Spindle Motor 30/22Kw Spindle speed 4,000rpm</td>
</tr>
<tr>
<td>5-Axis Machining Center</td>
<td>1</td>
<td>MATUSURA</td>
<td>X:7,600mm×Y:845mm×Z:660mm Spindle speed 20,000rpm</td>
</tr>
<tr>
<td>Other 3-Axis, 4-Axis, 5-Axis Machining Centers</td>
<td>37</td>
<td>OKUMA,DMG MORI SEIKI,SHIGA,MATUSURA,HORIBE,MAZAK MITSUBISHI etc.</td>
<td></td>
</tr>
<tr>
<td>3-Dimensional Coordinate Measuring Machine</td>
<td>1</td>
<td>Carl Zeiss</td>
<td>X:1,100mm×Y:3,000mm×Z:1,000mm</td>
</tr>
</tbody>
</table>

Sales Amount

US$ 44,166,666/2015fy (Expected Sales Amount)
US$ thousand ($1 = ¥120)

Organization

Employees: 341

Company Profile / Contact

Representative
Naohiro Enomoto

Capital
US$ 83,333 ($1 = ¥120)

Major Customers
Kawasaki Heavy Industries, Ltd.
Mitsubishi Heavy Industries, Ltd.

Address
5-10, Soharakoamachi,
Kakamigahara, Gifu 504-8551,
Japan

TEL
+81-58-389-7433

E-mail
e.hr@enomotoweb.com
FUSO MACHINE WORKS, LTD.

Outline of Business

- Establishment: June 1, 1953
- Lines of business:
  - Design and manufacture of various equipment for automation (for automobile, autopart, and semiconductor industries)
  - Design and manufacture of precision molds and dies for press and injection molding
  - Processing of ultra-precision parts
  - Machining & inspection of aircraft parts

Our Strengths

- Proof of Skills

Facility & Equipment

- 5-axis machining center (MAKINO Ti) 1500×1300×2000mm
- High-speed multi center (SNK RB-4NM) 900×900×900mm
- 5-axis horizontal machining center (Mitsui Seiki HU63A-5X) 900×900×900mm
- 5-axis vertical machining center (SNK CMV-100) 1500×1330×1300mm
- CNC jig borer (Yasuda YBM 950V ver.III) 900×500×350mm
- CNC 3-dimensional coordinate measuring machine (Zeiss (Accretech) Prismo 7) 900×1180×650mm

Organization

- Employees: 355

- Head Office and Head Office Factory
  500 Ooaza, Masuda, Kuwana, Mie 511-8558
  Tel: +81(0)594-24-5050 Fax: +81(0)594-21-9394

- Hokusei Factory
  237 Ookondo-shiden, Hokusei-cho, Inabe, Mie 511-0425
  Tel: +81(0)594-72-6111 Fax: +81(0)594-72-6115

- Toin Factory
  36 Aza Higashikawahara Ooaza, Chikushi, Inabe, Mie 511-0253
  Tel: +81(0)594-76-0611 Fax: +81(0)594-76-0668

- 2nd Toin Factory
  111 Ooaza, Roppano-shiden, Toin, Inabe, Mie 511-0242
  Tel: +81(0)594-86-0001 Fax: +81(0)594-86-0022

Overseas affiliated companies: Tianjin Fuso Machine Works, Ltd.
Fuso U.S.A., Inc.
Pt. Fuso Machine Works Indonesia

Company Profile / Contact

- Representative: Gaku Hattori
- Capital: US$250,000
- Address: Fuso Machine Works, Ltd.
  Hokusei Factory
  +81-(0)594-72-6111
- TEL: Group Manager, Sales Group, Hokusei Factory
- E-mail: Kouji Fujii kfujii@fusokoki.co.jp
Outline of Business

Machining processing of parts for aircraft and spacecraft frames and engines. Application of processing technologies to produce a variety of products to be supplied to the market.

Main aerospace products:
- Aircraft parts
- Aircraft engine parts
- Spacecraft parts and engine parts
- Aircraft parts for composite materials
- Jigs for composite laminated materials
- Design and manufacture of special devices

Other main products:
- Functional automotive parts
- Hydraulic parts for construction machines

Our Strengths

- We carry out precision processing of complicated shapes of aircraft parts with many kinds of NC machines (including simultaneous 5-axis control).
- We machine all types of materials from aluminum alloys to difficult-to-cut thick titanium, stainless steel, nickel alloy, and carbon fiber reinforced plastics (CFRP).
- We use high-precision equipment and software for process setup, jig design, NC program creation, manufacture, and continuous operation to inspection.
- We manufacture various jigs, test equipment, etc. by performing design, material supply, welding, machining, and assembly adjustment in our company. This strength enables us to propose various solutions.

Facility & Equipment

Machining equipment

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Quantity</th>
<th>Manufacturer</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal 5-axis machining center</td>
<td>3</td>
<td>Mitsubishi</td>
<td>W1300mm × L1200mm × H1200mm</td>
</tr>
<tr>
<td>Bridge type 5-axis machining center</td>
<td>5</td>
<td>Shin Nippon Koki</td>
<td>W4000mm × L11000mm × H1000mm</td>
</tr>
<tr>
<td>Vertical NC lathe</td>
<td>5</td>
<td>Toshiba Machine</td>
<td>Φ1100mm × H800mm</td>
</tr>
<tr>
<td>Horizontal NC lathe</td>
<td>4</td>
<td>Okuma</td>
<td>Φ1000mm × L4000mm</td>
</tr>
<tr>
<td>Other NC machines (About 100)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Measuring equipment

<table>
<thead>
<tr>
<th>Machine Type</th>
<th>Quantity</th>
<th>Manufacturer</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coordinate measuring machine</td>
<td>3</td>
<td>Mitutoyo</td>
<td>W1000mm × L2000mm × H800mm</td>
</tr>
</tbody>
</table>

CAD/CAM system

- CATIA V5 11

Sales Amount

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales Amount US$ million ($1 = ¥120)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>32</td>
</tr>
<tr>
<td>2012</td>
<td>31</td>
</tr>
<tr>
<td>2013</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
</tr>
<tr>
<td>2015 (Forecast)</td>
<td></td>
</tr>
</tbody>
</table>

Important Information / Notices

Fundamental Policy

To contribute to the development and welfare of society through eco-friendly manufacturing, providing quality assured products that satisfy our customers.
Company Profile

HODEN SEIMITSU KAKO KENKYUSHO CO., LTD.

Outline of Business

- Machining of the low-pressure turbine blade for the aero gas turbine engine and various parts for rocket engine.
- Metal surface treatment of aero engine parts and automobile parts etc.
- Manufacturing of various molds for the ceramics honeycomb injection and Aluminum injection.
- Trust processing of industrial gas turbine parts, automobile parts and other metal product.
- Development and manufacturing of the mechatronics products.
- Manufacturing of the high precise and high efficient digital servo press.
- Trust processing of the press parts.
- Sales of the chrome free paint “ZECCOAT”.

Our technology

- Technology of metal machining with electric discharge machining (EDM) as main.

HSK covers the metal machining technologies of the EDM cultivated by experience more than 50 years, the manufacturing of precise mold by several machining methods and the surface treatment that first developed the chrome free paint in the world. Particularly, in the EDM, HSK is the Japan's largest company and has been supporting the “manufacturing” as a pioneer of the EDM.

HSK held the Chubu establishment as an aircraft part manufacturing hub and acquired Nadcap (CP, CT and NM) based on the experiences that have proceeded the trust production of aircraft parts more than 35 years. HSK has an evaluation from customer in the management of various special processes.

In 2015, HSK launched a consecutive manufacturing line for low-pressure turbine blade used in low fuel consumption engine made in Rolls-Royce, in Komaki, Aichi prefecture as a new attempt and HSK started the blade productions.

In the future, HSK are going to acquire Nadcap of NDT and weld process in addition to Nadcap of above special process (CP, CT and NM) and will push the business enterprise which specializes in aero-part production/manufacturing.

Sales Amount

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount of sales (Unit: JPY one million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>7500</td>
</tr>
<tr>
<td>2012</td>
<td>8000</td>
</tr>
<tr>
<td>2013</td>
<td>8500</td>
</tr>
<tr>
<td>2014</td>
<td>9000</td>
</tr>
<tr>
<td>2015</td>
<td>9500</td>
</tr>
</tbody>
</table>

※ The data for each year in February period

Facility & Equipment

- EDM equipment
  - EDM: 16
  - WEDM: 4
  - Other machines: 13
  - 3-axis machining, EDM for small hole processing and various general-purpose machine

- Surface treatment equipment
  - Blasting Machine: 10
  - Various furnaces: 14
  - Fluorescent penetrant testing (FPT) equipment: 1
  - Plasma spraying machine: 4
drying furnace, pack furnace, diffusion furnace and vacuum furnace etc.

Organization

- Employees: 478 (as at February 2015)

Company Profile / Contact

- Representative: Katsuhiko Futamura, President
- Capital: JPY 8.9 billion (USD 7.4 million)
- Major Customers: IHI, KHI, MHI, MHPS, Denso, LIX, IL, NGKinsulators
- Address: 783-6, Sakasita-cho, Kasugai, Aichi
- TEL: 0568-93-0666
- E-mail: mps-chubu@hsk.co.jp
**Outline of Business**

- Production of machining parts for aerospace and assembly for aircraft.
- Design and development and production of GSE for aircraft.

**Our Strengths**

- IAC has 31 CATIA units and our 5-axis machining machine holds 52 units. Thus, we can process all parts including those with complex shape, and can perform 5-axis processing of large parts of up to 18m. Our Malaysia factory undertakes surface treatment and paint work. Thus, we can handle the whole process of material purchasing, machining, surface treatment, painting and sub-assembly.

**Facility & Equipment**

<table>
<thead>
<tr>
<th>Machining Center <em>Travel</em></th>
<th>5-Axis</th>
<th>4-Axis</th>
<th>3-Axis</th>
<th>14</th>
<th>41</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAD/CAM</td>
<td>CATIA</td>
<td>CADAMs</td>
<td></td>
<td>31</td>
<td>2</td>
</tr>
<tr>
<td>CMM</td>
<td></td>
<td></td>
<td></td>
<td>7 units</td>
<td></td>
</tr>
<tr>
<td>Laser Tracker</td>
<td></td>
<td></td>
<td></td>
<td>4 units</td>
<td></td>
</tr>
</tbody>
</table>

**Company Profile / Contact**

**Representative**
Tetsuo Imai

**Capital**
US$80,000

**Major Customers**
KHI, MHI, FHI, NIPPI, SMIC, Ministry of Defense, SPIRIT, SAM, ALESTIS

**Address**
128 Kinzokudanchi, Kakamigahara, Gifu 504-0957, Japan
+81-58-389-2011 Japan
+606-232-2062 / 2072 Malaysia

**E-mail**
iac@imaiaero.co.jp
Company Profile

Ishigane Seiki CO., LTD.
株式会社 石金精機

CERTIFICATION
JIS Q 9100, ISO9001, ISO14001

WEBSITE
http://www.ishigane-fas.co.jp/

Outline of Business

- Design and manufacture of aircraft-related parts, medical-related
- Design and manufacture of precision machine parts such as fabrication machines, semiconductor devices, HDD assembly devices, and energy-saving devices, etc.
- Trial manufacture of automotive parts, etc.

Entered the aircraft industry in 2013, the aircraft business until last year was about 5 percent of our company. Recently, we received an order for all 18 different parts from MRJ (Mitsubishi Aircraft Co., Ltd.), about the wings mounted components "TRACK RAIL".

In addition, we also received the order of all 800 items which consists of 20 models from Aircraft manufacturing companies. We expect from the production of aircraft-related parts started going into orbit, our company’s business aircraft components will grow rapidly.

And from now on, we also make great effort to improve technical capability furthermore in order to satisfy customers and receive high quality evaluation from customers.

Our Strengths

- Processing of Blade shaped parts such as impeller, brake,
- Manufacture all of aircraft parts such as casing, bracket, frame.
- Processing of High Tensile Strength Steel is also done with high technology, low cost and short lead time.
- We can deal with parts to mill difficult level include with multi-process from lathe turning, cutting, grinding to inspection in our company.
- We have built a factory only for manufacturing aircraft parts. And Facilities that can deal with any request from customers are prepared.

Sales Amount

US$10 million / 2015fy ($1 = ¥120)

Organization

Employees: 71 (Sep. 2015)

Facility & Equipment

With abundant facilities, we can manufacture in our company nearly all of processes from design, machining to assembly.

<table>
<thead>
<tr>
<th>Device</th>
<th>Processing capacity</th>
<th>Manufacturer</th>
<th>Model</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universal milling machines for 5-sided / 5-axis machining</td>
<td>Φ550x440x580</td>
<td>Matsuura Machinery Corporation</td>
<td>MAM72-35V(N)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Φ980x500x560</td>
<td>DMG Mori Co., Ltd.</td>
<td>UNU855mono BLOCK</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Φ1600x1250x1100</td>
<td>DMG Mori Co., Ltd.</td>
<td>UNU160P duo BLOCK</td>
<td>1</td>
</tr>
<tr>
<td>5-axis vertical machining center</td>
<td>Φ1250x1250x1000</td>
<td>DMG Mori Co., Ltd.</td>
<td>UNU125P duo BLOCK</td>
<td>1</td>
</tr>
<tr>
<td>Combined processing machine</td>
<td>Φ250x1500</td>
<td>Yamazaki Mazak corporation</td>
<td>INTEGREX 300-IV</td>
<td>1</td>
</tr>
<tr>
<td>Coordinate measuring machine</td>
<td>1200x1800x1000</td>
<td>Tokyo Seimitsu Co., Ltd.</td>
<td>ACCURA2 12/18/10</td>
<td>1</td>
</tr>
</tbody>
</table>

In addition, we have about 120 units of processing machines and inspection machines.

Company Profile / Contact

Representative
Katsuhiro Shimizu

Capital
US$250,000 *$1.00@ ¥120

Major Customers
Kawasaki Heavy Industries, Ltd.,
IHI Corporation,
Asahi Kikko Kogyo Inc.,
NACHI-FUJIKOSHI CORP.

Address
255 Nagaresugi, Toyama-shi,
Toyama 939-8032, Japan

TEL
+81-76-423-8317

E-mail
info@ishigane-fas.co.jp
Company Profile

ITO SEIMITSU CO., LTD.
株式会社伊藤精密工具製作所

CERTIFICATION
ISO 9001, 14000

WEBSITE
http://www.ito-seimitsu.co.jp

Outline of Business

- Machining
- Designing/manufacturing of gauges and jigs
- Manufacturing of single and small unit of machining

Our Strengths

- We have high technology and great experience in designing and manufacturing inspection and measuring gauges and jigs.
- We offer excellent advice on improving quality based on many years of experience.
- We can accept orders for manufacturing a wide variety of products in small quantities.
- We have an outsourcing production network of about 40 companies in Japan, Thailand, South Korea, and China (Dalian).

Facility & Equipment

<table>
<thead>
<tr>
<th>Facility</th>
<th>Number</th>
<th>Brand</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylindrical grinder</td>
<td>3</td>
<td>JTEKT</td>
<td>φ300×500</td>
</tr>
<tr>
<td>Internal grinder</td>
<td>4</td>
<td>Toyo</td>
<td>φ4×φ200</td>
</tr>
<tr>
<td>Surface grinder</td>
<td>5</td>
<td>Kuroda</td>
<td>600×500</td>
</tr>
<tr>
<td>Jig borer</td>
<td>1</td>
<td>Mitsui Seiki</td>
<td>No4</td>
</tr>
<tr>
<td>Jig grinder</td>
<td>1</td>
<td>Mitsui Seiki</td>
<td>300G</td>
</tr>
<tr>
<td>Profile grinder</td>
<td>2</td>
<td>Waida</td>
<td>140×470</td>
</tr>
<tr>
<td>Electric spark machine</td>
<td>1</td>
<td>Sodick</td>
<td>300×200</td>
</tr>
<tr>
<td>Thread grinder</td>
<td>4</td>
<td>Matrix</td>
<td>φ300×500</td>
</tr>
<tr>
<td>Universal measuring machine</td>
<td>2</td>
<td>Zeiss</td>
<td></td>
</tr>
<tr>
<td>Measurement of surface</td>
<td>1</td>
<td>Mitutoyo</td>
<td></td>
</tr>
<tr>
<td>Contour form measurement</td>
<td>1</td>
<td>Mitutoyo</td>
<td></td>
</tr>
<tr>
<td>CMM</td>
<td>1</td>
<td>Mitutoyo</td>
<td>FALCIO710</td>
</tr>
</tbody>
</table>

Sales Amount

<table>
<thead>
<tr>
<th>Year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>US$ (Thousand)</td>
<td>0</td>
<td>1000</td>
<td>2000</td>
<td>3000</td>
</tr>
</tbody>
</table>

Organization

- President
- Factory Manager
- Chairman
- Administration (5 persons)
- Design (4 persons)
- Sales (3 persons)
- Factory direct (15 persons)

Company Profile / Contact

Representative
Masanori Ito

Capital
US$167,000

Major Customers
Toyota, Honda, etc.

Address
4-10 Yanagishima-cho, Nakagawa-ku, Nagoya, Aichi 454-0024, Japan

TEL
+81-52-361-7537

E-mail
info@ito-seimitsu.co.jp
**Kakamigahara Aero Equipment Co., Ltd.**

[Logo]

**Certification**
- JIS Q 9100 (AS 9100)

**Website**
- http://www.kae-gifu.co.jp/

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**Outline of Business**
- Manufacture of wiring harnesses for aircraft, helicopters and missiles
- Manufacture of extremely high-quality wiring harnesses
- Wiring harness build-up for quick installation on aircraft
- Design and manufacture of ground support equipment

**Our Strengths**
Based on our technical skills outlined below, we strive to meet customers' needs with excellent technologies and reliability.

- Production of wiring harnesses with superior protection against the environment and electromagnetic interference
- Production at low cost with short delivery time based on high reliability and technologies

**Facility & Equipment**
- Extra-long wire-harness manufacturing (up to 80m)
- Laser marking machine: 3 sets
- Continuity and insulation test device: 2 sets
- Thermostat tanks for environmental testing: 1 set

**Organization**
- Employees: 150

**Sales Amount**

<table>
<thead>
<tr>
<th>Year</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>US$10,175 K</td>
<td>US$9,933 K</td>
<td>US$9,834 K</td>
</tr>
</tbody>
</table>

**Company Profile / Contact**

**Representative**
- Shigeaki Hashimoto, President

**Capital**
- US$84,000

**Major Customers**
- Kawasaki Heavy Industries
- Mitsubishi Heavy Industries
- Fuji Heavy Industries
- Nippi Corporation
- Yamaha-Motor Company
- Tyco Electronics Japan K.K

**Founded**
- April 18, 1968

**Address**
- 3-6 Sohara Koua-machi
- Kakamigahara, Gifu 504-0814, Japan

**E-mail**
- k.kiyama@kae-gifu.co.jp
**Company Profile**

**KATO MANUFACTURING CO., LTD**

**Certification**


**Website**

http://www.katoseisakusho.co.jp/

---

### Outline of Business

We are exclusively an aerospace and defense focused enterprise and specialized in machining complex parts to customer specifications.

- **Design and Production Engineering**
- **Programming**
- **Machining**
- **Surface Treatment and Painting (Out Sourcing)**
- **Inspection**

### Our Strengths

Our manufacturing and facilities cover 55,112 square feet, and contain 47 single-spindle 3, 4 and 5 axis machining centers. Machine parts are manufactured from titanium, nickel based alloys, heat treatable steels, and aluminum.

### Quality Assurance

- **3D Measuring Instruments**
  Size capacity: 47x118x40 (inch)

---

### Facility & Equipment

**Model**
- VORTEX1400/160 MARK
- VORTEX1400/160
- VORTEX 1-630V(FMS44Pallets)
- FH-6800(FMS 48 Pallets)
- FH-5800(FMS 68 Pallets)
- NEXUS5000-Ⅲ
- DH-60(FMS 69 Pallets)
- MILLAC-630H
- MA-600H Ⅱ(FMS32 Pallets)
- VM-7
- MVR-25
- MCVA Ⅱ
- Any Other 3-Axis Vertical M/C
- Nc Lathe
- BHN710 CMM/C-3S
- Crysta-ApexC123010

**Model**
- Maker
- Table Size (Xmm.Ymm)

<table>
<thead>
<tr>
<th>Model</th>
<th>No Of Axis</th>
<th>Maker</th>
<th>Table Size (Xmm.Ymm)</th>
<th>O/τ</th>
</tr>
</thead>
<tbody>
<tr>
<td>VORTEX1400/160 MARK</td>
<td>5</td>
<td>Yamazaki</td>
<td>4000×1250 18,000rpm</td>
<td>2</td>
</tr>
<tr>
<td>VORTEX1400/160</td>
<td>5</td>
<td>Yamazaki</td>
<td>4000×1250</td>
<td>1</td>
</tr>
<tr>
<td>VORTEX 1-630V(FMS44Pallets)</td>
<td>5</td>
<td>Yamazaki</td>
<td>630×630 10,000rpm</td>
<td>4</td>
</tr>
<tr>
<td>FH-6800(FMS 48Pallets)</td>
<td>4</td>
<td>Yamazaki</td>
<td>630×630 18,000rpm</td>
<td>3</td>
</tr>
<tr>
<td>FH-5800(FMS 68Pallets)</td>
<td>4</td>
<td>Yamazaki</td>
<td>500×500 25,000rpm</td>
<td>4</td>
</tr>
<tr>
<td>NEXUS5000-Ⅲ</td>
<td>4</td>
<td>Yamazaki</td>
<td>500×500 25,000rpm</td>
<td>2</td>
</tr>
<tr>
<td>DH-60(FMS 69Pallets)</td>
<td>4</td>
<td>Mitsubishi</td>
<td>630×630</td>
<td>6</td>
</tr>
<tr>
<td>DH-60</td>
<td>4</td>
<td>Mitsubishi</td>
<td>630×630</td>
<td>2</td>
</tr>
<tr>
<td>MILLAC-630H</td>
<td>4</td>
<td>Okuma</td>
<td>630×630</td>
<td>4</td>
</tr>
<tr>
<td>MA-600H Ⅱ(FMS32Pallets)</td>
<td>4</td>
<td>Okuma</td>
<td>630×631</td>
<td>4</td>
</tr>
<tr>
<td>VM-7</td>
<td>3</td>
<td>Okk</td>
<td>1550×740 13,000rpm</td>
<td>3</td>
</tr>
<tr>
<td>MVR-25</td>
<td>3</td>
<td>Mitsubishi</td>
<td>3000×1500 12,000rpm</td>
<td>1</td>
</tr>
<tr>
<td>MCVA Ⅱ</td>
<td>3</td>
<td>Okuma</td>
<td>4100×1500</td>
<td>2</td>
</tr>
<tr>
<td>Any Other 3-Axis Vertical M/C</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>14</td>
</tr>
<tr>
<td>Nc Lathe</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>BHN710 CMM/C-3S</td>
<td>-</td>
<td>Mitutoyo</td>
<td>1000×700×600</td>
<td>1</td>
</tr>
<tr>
<td>Crysta-ApexC123010</td>
<td>-</td>
<td>Mitutoyo</td>
<td>1200×3005×1005</td>
<td>1</td>
</tr>
</tbody>
</table>

---

### Important Information / Notices

In October 2016, No 3 plant is going to start operating in Matsusaka, that is a cooperative society organization. Machining, Sheet metal, Heat treatment, Surface treatment and paint, Shot peening include in this house.

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### Sales Amount

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### Company Profile / Contact

**Representative**

Takashi Kato

**Capital**

US$ 83.3 (Thousand)

**Major Customers**

Mitsubishi Heavy Industries Ltd
Kawasaki Heavy Industries Ltd

**Address**

82-20.3-Chome
Kakami-Nigashimachi
Kakamigahara, Gifu 509-0103, Japan

**TEL**

+81-58-379-0111

**E-mail**

takashima@katoseisakusho.co.jp
**Company Profile**

**Kondo Machine Corporation**

株式会社近藤機械製作所

**CERTIFICATION**

- JIS Q 9100, Rolls-Royce SABRe Certificate

**WEBSITE**

- http://www.kondo-kikai.co.jp
- http://www.gokiso.jp

---

**Outline of Business**

- Machine design and manufacturing
- Machine processing for aviation engine parts
- Ultra-precision parts manufacturing
- Mold design and manufacturing

**Market Product (Exclusive Bicycle Wheel)**

"GOKISO", the ultimate bicycle wheel system: development, designing, manufacturing and international distribution

---

**Our Strengths**

- Kondo Machine Corporation has a history of over 60 years and is a manufacturer of ultra-precision machines specializing in ultra-precision metal cutting. The company is also highly reputed as a parts manufacturer for jet engines.

- Our absolute and accurate quality control is applied to every single product. Every product lives up to uncompromising standards in design, production and quality control. Our products showcase the true value of craftsmanship. This is our philosophy.

- The company launched the brand GOKISO in 2010 to convey our philosophy to the worldwide market.

---

**Facility & Equipment**

- Turning lathes
- NC lathes
- Cylindrical grinding
- Machining center
- Surface grinding
- EDM
- EDW
- CMM and inspection facilities

---

**Organization**

Kondo Machine Corporation has skilled people in the following areas:

- Development
- Design
- Manufacturing
- Q.A.
- Sales
- After-market

---

**Important Information / Notices**

"Kondo Machine Corporation is a small company - around 30 employees - that makes high precision metal parts that spin around" (David L. 2014, http://positivo-espresso.blogspot.jp/2015/01/the-gokiso-story-gokiso-monogatari.html)

---

**Company Profile / Contact**

<table>
<thead>
<tr>
<th>Representative</th>
<th>Yutaka Kondo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital</td>
<td>US$330,000 ($1 = ¥120)</td>
</tr>
<tr>
<td>Major Customers</td>
<td>NTN Corp. Aerospace Bearing Dev.</td>
</tr>
<tr>
<td>Address</td>
<td>1-130 Funairi Kanie-cho, Ama-gun, Aichi 497-0046, Japan</td>
</tr>
<tr>
<td>TEL</td>
<td>+81-567 951343</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:kondo@kondo-kikai.co.jp">kondo@kondo-kikai.co.jp</a></td>
</tr>
</tbody>
</table>
KOSAKA IRON WORKS CO., LTD.
株式会社 小坂鉄工所

Company Profile

KOSAKA IRON WORKS CO., LTD.
株式会社 小坂鉄工所

Company Profile

KOSAKA IRON WORKS CO., LTD.
株式会社 小坂鉄工所

Company Profile

KOSAKA IRON WORKS CO., LTD.
株式会社 小坂鉄工所

Facility & Equipment

Complex lathe ......................... 2
Multi-purpose lathe .................... 12
NC multi-purpose lathe ............... 2
NC lathe ................................ 9
Multi-purpose vertical milling machine ...... 2
Multi-purpose horizontal milling machine .... 1
NC milling machine .................. 3
Vertical machining center ............. 4
Grinding machine for external diameter ... 4
Grinding machine for internal diameter ... 1
Flat grinding machine .................. 7
Honing machine ........................ 1
Radial drilling machine ................ 1
Electrical discharge wire cut machine .... 2
Electrical discharge machine ........... 1
Electrical discharge boring machine ...... 1
Profile projector ...................... 1
Shape measuring machine ............ 2
Surface roughness measuring machine .... 1
3D measuring machine .............. 2
Laser marker .......................... 1

Manufacture of precision parts for aircraft
Mass-production of turbine blades grinding mounted on the aircraft engine
Machining of rocket engine parts
Manufacture of prototype products for rockets

(Aircraft products account for about 80%.)

Outline of Business

Our Strengths

We specialize in machining small precision parts, ranging in size from fingernail to hand size, and offer a wide variety of cutting.
We can deal with urgent orders.
We will challenge any project using technologies accumulated since 1958.

Sales Amount

Gross sales: ¥1 billion (2014)

Organization

Employees: 85 (Oct. 2015)

Important Information / Notices

Certified according to JIS Q 9100 (Aug. 2007)

Company Profile / Contact

Representative
Hirotaka Kosaka, President

Capital
¥20 million

Major Customers
Mitsubishi Heavy Industry Ltd.,
Eagle Industry Co., Ltd.,
Kanto Aircraft Instrument Co., Ltd.,
KOK Corporation,
Tayu Nippon Sanso Corporation,
NSD Corporation, etc.

Address
Main factory:
4-26 Kaname-cho, Minami-ku, Nagoya,
Aichi 457-0802, Japan
Mitake factory:
2188-62 Minamiyama, Mitake, Mitake-cho,
Kani-gun, Gifu 505-0116, Japan
TEL
+81-52-611-9456 (Main factory)
+81-574-67-4484 (Mitake factory)
E-mail
kosakaco@poplar.ocn.ne.jp
Outline of Business

- Processing of function-added plating mainly for aero-aviation components, electronic parts, and automobile parts

Our Strengths

- Copper, nickel, and tin plating for mass-produced products
- Excellent high-mix, small-lot production
- High technologies and know-how for surface treatment of various materials to meet customers’ needs
- Network of partner factories, enabling us to reduce lead time of all types of surface treatment

Facility & Equipment

- Copper plating facilities
- Nickel plating facilities
- Tin plating facilities
- Silver plating facilities
- Gold alloy plating facilities
- Various electroless plating facilities

Products and Services

Our plate processing provides additional functions to aircraft engines and assembly parts such as seizure prevention.

Company Profile / Contact

Representative
Kiyoshi Koyama

Capital
10 million yen

Major Customers
NTN Corporation, Owari Precise Products Co., Ltd., Asahi-Seiki Manufacturing Co., Ltd., Panasonic Corporation

Address
120-1 Aza-Kakitsubata Narumi-cho
Midori-ku, Nagoya, Aichi 458-0801, Japan

TEL
+81-52-891-1881

E-mail
info@surface.co.jp
MATSUURA CO., LTD.
株式会社 松浦

CERTIFICATION | JIS Q 9100, Nadcap (Welding), ISO 9001, ISO 14001
WEBSITE | http://www.kk-matsuura.co.jp

Outline of Business
- Aerospace parts
- Manufacturer of transportation equipment
- Other products (parts for automobiles, parking support equipment, electrical distribution, etc.)

Our Strengths
- Major customers highly evaluate the following aspects of our products:
  1) On-time delivery
  2) High quality
  3) Reasonable prices

We do our best to meet customers’ requests and gain their trust.

Facility & Equipment
- 1000-ton hydraulic double-action type press (introduced in Feb. 2016)
- 500-ton hydraulic single-motion type press
- Clamp press (250 ton, 200 ton, 140 ton and 100 ton)
- 2D laser beam machine
- NC turret punching machine (2 sets)
- Shearing machine (3 sets)
- Bending machine (125 ton, 100 ton and 60 ton)
- TIG automatic welding machine (introduced in Feb. 2016)
- TIG welding machine (for aircraft, 3 sets)
- Conical roll molding machine (introduced in Jan. 2016)

Sales Amount

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount ($1 = ¥100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>52,000,000</td>
</tr>
<tr>
<td>2014</td>
<td>51,000,000</td>
</tr>
<tr>
<td>2015</td>
<td>50,000,000</td>
</tr>
<tr>
<td>2016</td>
<td>50,000,000</td>
</tr>
<tr>
<td>2017</td>
<td>50,000,000</td>
</tr>
</tbody>
</table>

Organization

Important Information / Notices
- Selling points
  We mainly produce parts in small volumes in efficient combination with mass-produced parts. We strive to create a good, comfortable workplace and work hard to provide customers with products which benefit society and are eco-friendly.

Company Profile / Contact

Representative | Takahiro Matsuura
Capital | US$100,000 ($1 = ¥100)
Major Customers | Mitsubishi Heavy Industries Ltd.

Address | 1296 Honjo, Komaki, Aichi 485-0821, Japan
TEL | +81-568-78-3111
E-mail | office1@kk-matsuura.co.jp
Mizuhocraft Co., Ltd.
ミズホクラフト 株式会社

Outline of Business
- For the aerospace industry: manufacture and delivery of various types of heaters such as polyimide heaters, and Hot Bonders (Heater Controllers) as CFRP and GFRP part repair kits
- For general industries: silicone rubber heaters, drum heaters and temperature controllers

Our Strengths
- We are manufacturing products under the Boeing’s specific requirements and approved process.
- High performance based on strict quality assurance
  - Flexibility ----- can manufacture heaters to match your needs and applications
  - Free design ----- can design for any electric power level, for any size
  - Orders for a single unit ----- can handle any requests
- To satisfy all clients' needs without being bound to existing technology, we undertake the following:
  - material development
  - design development
  - manufacturing technology development
  - manufacturing facility development

Usage Performance
- BOEING 737: Japan Air Self-Defense Force KC-767
- BOEING 747: Japan Air Self-Defense Force C-130H
- BOEING 767: Japan Air Self-Defense Force UH-60J
- BOEING 777: Japan Air Self-Defense Force
- BOEING 787: Japan Air Self-Defense Force

Example
1. High-Flexibility Heat Blanket (Stretchable Blanket)
   - We decided to use materials with no glass fiber cloth, to make our heater more elastic than conventional products. We also made the heater as thin as possible, reducing its thickness to just 1.9mm (0.074”).
   - With the new approach to the material itself and its thinness, we were able to create a more flexible heater.

2. Bladder Bag
   - Heat resistant to 200°C (392°F)
   - Will not break at pressures up to 6 atm
   - Should be as thin as possible (hopefully less than 0.5mm (0.019”))

3. Vacuum Heat Blanket
   - We put all these parts together in one device:
     1. Manufactured a new heater with integrated thermocouple
     2. Manufactured a new insulated silicone bag with sealant function
     3. Combined the heater and bag (#1 & #2)
     4. Added an insulated vacuum port to the combined heater and bag (#3)

Company Profile / Contact
- Representative: Soichiro Ito
- Capital: ¥10 million (US$100,000)
- Founded: April 2009
- Major Customers: Boeing, Mitsubishi Aircraft, ANA Aero Supply Systems, ANA, JAL Engineering, JAXA, Sojitz Aerospace Corporation
- Address: 109 Creation-Core, 2266-22, Anagahora, Shimoshidami, Moriyama-ku, Nagoya, Aichi 463-0003, Japan
- TEL: +81-52-737-0190
- E-mail: s.itou@mizuhocraft.co.jp
Outline of Business

Let Us Be Different!
We strive to be a one-of-a-kind group of engineers who goes beyond customers’ expectations. With over 50 years of experience, we will continue to master our craft to achieve competitive edge and never-ending growth.

- Overview:
  ISO certified company specializing in 3 & 5-axis machining of aluminum components with high complexity, precision, and speed
  Serving customers in various industries including aerospace, semiconductors, and industrial machinery
  Located in Toyama, three hours from the major concentration of aerospace OEMs and suppliers in central Japan

- Awards:
  Awarded the Jury’s Encouragement Prize for IT Management of Small and Medium Enterprises by the Japanese Ministry of Economy, Trade and Industry

Our Strengths

- 5-axis machining for various aluminum components (maximum table size of 2100mm x 5000mm)
- Highly flexible production environment enabling short lead times and high-mix low-volume production
- Strong emphasis on quality assurance by utilizing coordinate measuring machines (CMM) resulting in high precision

Facility & Equipment

Machining (27 units in total)
- Mazak VERSATECH V-100N/240 ……………… 5-axis machining (6000×3600×1960)
- DMG DMU200P x 2 ………………………… 5-axis machining (1800×2000×1100)
- DMG DMU125P …………………………….. 5-axis machining (1250×1250×1000)
- DMG DMU80P x 3 …………………… 5-axis machining (800×800×800)
- DMG DMU80monoBLOCK ……………… 5-axis machining (680×630×630)
- DMG DMU80monoBLOCK ………………… 5-axis machining (730×560×560)
- DMG DMF360Liner x 2 …………………. Machining (3600×920×820)
- DMG DMF300Liner x 2 …………………. Machining (3000×560×720)

CMM (Coordinate Measuring Machine)
- Tokyo Seimitsu/Cari Zeiss ………………… ACCURA II (1200x2400x1000)
- API Laser Tracker System (SA) …………. RADIAN (R20m)
Company Profile

MIZUNO METAL WORKS CO., LTD.
株式会社 水野鉄工所

CERTIFICATION
JIS Q 9100, JIS Q 9001

WEBSITE
http://www.miztec.jp

Outline of Business

- **Aircraft Division**: The major division of our company, fabricating aircraft/spacecraft parts with state-of-the-art facilities and specialized machining technology such as long-size precision cutting, 5-axis cutting, and titanium cutting.

- **Vehicle and Aircraft Device Division**: Mainly designs and fabricates tools & jigs for aircraft assembly, and aircraft components for overhauls (repairs) of aircraft.

- **Hydraulic Device Division**: Mainly fabricates hydraulic device components for industrial vehicles and construction machines. Performs machining, welding and assembly, and also fabricates machined parts of aircraft.

Our Strengths

- Technique to process lamina long lengths of aluminum material by exclusive 10m processing machine.
- Technique to process titanium alloy products by self-developed high-efficiency tool.
- We specialize in the design and production of tool & jigs and mechanical processing.
- We have a one-stop manufacturing system for assembly and overhaul of components.

Facility & Equipment

<table>
<thead>
<tr>
<th>Equipment</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
<th>A</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spar miller</td>
<td>10.500</td>
<td>700</td>
<td>250</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
| Five-axis machining center| 4.460 | 1,320 | 712 | A 45 | 270 | 16  
| Four-axis machining center| 1.050 | 900  | 980 | 21 |  
| Three-axis machining center| 6.000 | 2,400 | 600 | 23 |  
| Auto milling machine      |    |    |    | 9  |  
| CNC turning center        | 1.080 | 850  | W 1,200 | 6  
| CNC lathe                 | 675  | 2,520 | 12  |  
| Jig boring machine        | 1,500 | 660  | 800 | 3  
| Coordinate measuring machine| 1,600 | 6,000 |  |  
| Catia V4, V5              |    |    |    | 9  |

Organization

Employees: 212

Sales Amount

US$23.5 million (2014)

Important Information / Notices

Management Policy:
By focusing on “first-class craftsmanship” to gain customers’ trust, we seek to develop the company and employees’ happiness, and thus widely contribute to society.

Company Profile / Contact

**Representative**
Tatsuhiro Mizuno, President

**Capital**
US$400,000 ($1 = ¥120)

**Major Customers**
Kawasaki Heavy Industries, Ltd.
Mitsubishi Heavy Industries, Ltd.
KBI Corporation

**Address**
4539-10 Kurachi, Seki, Gifu
501-3936, Japan

**TEL**
+81-575-21-5511

**E-mail**
info@miztec.jp
Outline of Business

- Nabtesco Aerospace Company is a key business among six business units.
- It has over 60 years of experience in the design, development and manufacture of hydraulic components, engine-related components, and flight control actuation systems.
- One of The World’s Top Suppliers for Flight Control Actuation:
  - Domestic Programs: Almost 100% Share
  - Boeing Commercial Program:
    - Top Supplier of “Fly-By-Wire” Flight Control Actuation Systems
    - Recent New Programs:
      - 737MAX FBW Spoiler Actuator
      - 777X Flight Control Actuation Systems
  - Awarded “2013 Supplier of The Year”
- Mitsubishi Regional Jet: Supplier of Flight Control Actuation Systems

Our Strengths

- Flight Control Actuation Systems:
  - Expertise and Know-How accumulated over the years through various programs
  - Highly Qualified Engineering Team based on CAD/CAE/CAT
  - Own EHSV: Key Component of Fly-By-Wire Flight Control Actuator
  - High Quality and Prompt Delivery for Customer Satisfaction
- Worldwide Customer Support:
  - Repair Shops Authorized by Various Countries’ Civil Aviation Authority
    - JCAB, FAA, EASA, CAAC, CAAS, DCA
  - Support Sites:
    - Customer Support Offices: Gifu (Japan), Kirkland (WA, USA), Dusseldorf (Germany), & Singapore (Singapore)
    - Repair Shop: Gifu (Japan), & Kirkland (WA, USA)
Outline of Business

- Precision products manufactured with advanced technology on state-of-the-art equipment
  The tools and fixtures that Nishimura Works manufactures for the aerospace industry are highly-specialized products used in the production of the Mitsubishi Regional Jet, the Boeing 787, and the H-IIA/H-IIB launch systems, as well as helicopters and other aircraft. Nishimura is committed to meeting the challenges of the ever-advancing aerospace industry.

- Tools and fixtures for the aerospace industry
  Nishimura accepts orders from aerospace and defense contractors for the manufacture of tools and fixtures used in the production of passenger planes, fighter planes, helicopters, rockets, and other aircraft. Production standards for the aerospace industry call for extreme precision, and those tools and fixtures are exceptionally difficult to manufacture.

- Manufacture of component parts for aircraft
  All aircraft must be capable of transporting passengers in safety. Nishimura Works manufactures structural elements of passenger aircraft. These parts form the airframe itself and there is absolutely no room for error in their manufacture.

- Dispatch of technical staff
  We can provide support as necessary for the production of the latest aircraft by dispatching our technical staff to work directly at the customer’s production or management facility.

Our Strengths

- An integrated process of design, manufacture, and quality control
  We have developed our own integrated process for product design, manufacture, and quality control based on the use of 3D CAD systems, five-axis machining, and inspection techniques such as 3D measurement. This system is the cornerstone of our ability to produce highly-specialized products while offering reduced costs, high quality, and short delivery times.

- In addition to jigs/tools for the aerospace industry, we also manufacture aircraft parts. Expertise in these two segments creates a synergistic effect in our creative manufacturing capabilities.

- We provide products of superior quality backed by recognized certifications such as JIS Q 9001 and JIS Q 9100.

Facility & Equipment

Machining
- 6 Five-axis machines (8250×4320×1700mm)
- 8 Three-axis machines (5250×2400×1700mm)
- 2 Three-axis wire-cut machines (700×500×300mm)
- 1 General-purpose lathe (9600×6500mm)
- 2 Surface grinding machines (600×400×200mm)
- 1 CNC vertical lathe (Φ2400×1550mm)

Bending/pressing
- 2 hydraulic presses (600t)

Measuring instruments
- 3 3D-coordinate measuring machines (1200×2000×1000mm)

Laser trackers
- 3 API laser trackers (30m (98ft) and 15m (49ft))
- 2 Faro tracker (30m)

Automatic programming system
- 11 CATIA-V5

Welding machines
- 3 TIG welders (500A/300A)
- 4 MIG welders (500A/350A)
- 2 laser welders (300W)

Important Information / Notices

Nishimura Works has 50 years of experience as a jig/tool manufacturer for the aerospace industry.

Company Profile / Contact

Representative  Koji Nishimura
Capital  US$3,334 (1 $ = ¥120)
Major Customers
- Mitsubishi Heavy Industries, Ltd. Nagoya Aerospace Systems Works
- Mitsubishi Heavy Industries, Ltd. Nagoya Guidance & Propulsion Systems Works
- Kawasaki Heavy Industries, Ltd. Aerospace Company

Address  3-36 Kansei-cho, Minato-ku, Nagoya, Aichi 455-0066, Japan
TEL  +81-52-611-2135
E-mail  nss@nishimuraworks.co.jp
Company Profile

O&M HEATER CO., LTD.
オーエムヒーター 株式会社

WEBSITE http://www.om-heater.jp

Outline of Business
- Design and manufacture of silicone rubber heaters (heater mat) for industrial use, for repair composite materials for aviation (stretch type, standard type, magnetic type)
- P&F heaters (polyimide flexible heater)
- Temperature controllers

Our Strengths
- Provision of customized heaters, even single units, using our patented process (shape, voltage, power, etc.)
  We have even manufactured a 1x2m size heater.
- Quick response to requests, short lead time
  Please contact us if a short lead time is required.
- Many applications
  Aviation (for repair of aircraft), general industry, construction, medical care, automobiles, etc.
- Idea creation
  Flexible ideas create a better future.

Facility & Equipment
- 100-ton hydraulic thermal press …… 8
- Electric testing system …………. 1
- Thermo viewer ………………. 1
- Plasma cleaner ……………… 1
- 3D CAD …………………… 1

Sales Amount
- 430 million yen (year to Sept. 2014)  
  (US$3.58 million)
- 460 million yen (year to Sept. 2015)  
  (US$3.83 million)
  ($1 = ¥120)

Organization
Employees: 30

Company Profile / Contact

Representative
Yasuhiro Maruyama

Capital
20 million yen
($1 = ¥120)

Major Customers

Address
1-601 Hara, Tenpaku-ku, Nagoya, Aichi 468-0015, Japan

TEL
+81-52-804-3140

E-mail
info@om-heater.jp

Address
1-601 Hara, Tenpaku-ku, Nagoya, Aichi 468-0015, Japan

TEL
+81-52-804-3140

E-mail
info@om-heater.jp
Outline of Business

We serve as your partner for grinding in production development, and offer ideal processing and grinding solutions.

(1) Grinding processing by expert craftsmen
During the 47 years since our establishment, we have specialized in ‘grinding the impossible’ in a 1-μm process by N/C machines, leveraging the intuition and experience of our craftsmen.

- Cylindrical grinding: outside φ570mm, inside φ600mm
- Surface grinding: 600mm x 2000mm
- Profile grinding: 200mm x 200mm x 200mm

(2) Measurement of product dimensions with multiple inspection facilities
Constant-temperature chamber inspections, three-dimensional measuring machines, roundness measuring instruments, highly-trained measurement experts

Our Strengths

(1) Various products
Air-plane actuators, bearings, measurement devices, gauges, main spindles of industrial machines

(2) Materials and manufacturing
- Fe, SUS, Al, FC, CFRP, Cu, Inconel, etc.
- From 1 to 100 pieces

Facility & Equipment

- External grinding: 20
  - Okuma, JTECT: φ570mm x 2500mm
- Internal grinding: 15
  - TOYO: φ1mm – φ600mm
- Surface grinding: 10
  - Hitachi: 600mm x 2000mm
- Profile grinding: 4
  - WAIDA: φ200mm x 200mm
- Jig grinding: 3
  - WAIDA: 400mm x 500mm
- Center hole grinding: 2
  - JTECT: φ125mm x 1250mm
- Surface roughness measurement: 2
  - Kosaka Lab.
- Roundness measurement: 2
  - Tokyo Seimitsu: φ600mm x 900mm
- 3D coordinate measuring machine: 1
  - Tokyo Seimitsu: 600mm x 600mm x 900mm

Organization

Employees: 49

Company Profile / Contact

Representative: Ken Ohori
Capital: US$66000 ($1 = ¥120)
Major Customers: KHI, IAC, MEIRA
Address: 1-9 Sohara, Terajima-cho, Kakamigahara, Gifu 504-0842, Japan
TEL: +81-58-389-1811
E-mail: ohorikenma@sky.plala.or.jp
Ryoki Tool Company, Ltd.

Outline of Business

- Invar tooling for composites
- Tooling for aircraft and aerospace
- Aircraft parts fabrication
- Measurement services under contract
- Stamping dies for automobiles

Our Strengths

- Advanced Invar tooling supplier
  Ryoki, through its superior technologies and capabilities, designs, bends, welds, and machines Invar tools of unsurpassed quality. This is evidenced through its role in supplying fuselage, skin, center wing box, stabilizer, fairing, spar, and stringer tools for major Japanese and international Tier 1 companies.

- 5-axis CNC capabilities
  As of July 2014, Ryoki's large-sized tooling fabrication capability has increased significantly, thanks to a new, 1,470 m² (15,800 ft²) facility that houses two state-of-the-art 5-axis bed mills. Each of these machines has a 3.5x14 m (11.5x46 ft) bed, and a travel envelope of 3.5x15.5 m (11.5x51 ft), which brings the company's inventory of 5-axis mills to seven.

- Engineering and quality assurance
  The Engineering Group at Ryoki is comprised of 24 engineers who are experienced and knowledgeable in tool design and fabrication. These engineers provide the foundation for the quality tools that Ryoki proudly delivers. Among the tools at their command are eight seats of the latest version of CATIA V5.

In addition, Ryoki's dedicated inspection facility has five Faro laser trackers for verifying tool dimensions in a climate controlled environment. Thus, Ryoki's clients receive exactly the tool they need to deliver the best parts on time.

Certification

ISO 9001, JIS Q 9100 (AS 9100)

Website

http://www.ryoki.co.jp

Facility & Equipment

(Only the primary equipment is listed.)

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Machine table size (in mm)</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-axis bridge mill</td>
<td>14,000 x 3,500 (45.9 x 11.5 ft)</td>
<td>2</td>
</tr>
<tr>
<td>5-axis bridge mill</td>
<td>11,100 x 3,500 (36.4 x 11.5 ft)</td>
<td>1</td>
</tr>
<tr>
<td>5-axis bridge mill</td>
<td>5,000 x 2,500 (16.4 x 8.2 ft)</td>
<td>2</td>
</tr>
<tr>
<td>Bridge mill</td>
<td>6,000 x 2,500 (19.7 x 8.2 ft)</td>
<td>2</td>
</tr>
<tr>
<td>Bridge mill</td>
<td>5,000 x 2,000 (16.4 x 6.6 ft)</td>
<td>2</td>
</tr>
<tr>
<td>Bridge mill</td>
<td>4,000 x 2,500 (13.1 x 8.2 ft)</td>
<td>7</td>
</tr>
<tr>
<td>CAD/CAM</td>
<td>CATIA V4, 8 CATIA V5, 2 Unigraphics</td>
<td></td>
</tr>
<tr>
<td>Measurement equipment</td>
<td>4 laser trackers, 1 portable CMM, 1 fixed CMM</td>
<td></td>
</tr>
</tbody>
</table>

Sales Amount

($1 = ¥120)

Organization

President & CEO

Sales

- Domestic
- Overseas

Engineering

- Design & NC
- Pro-Eng

Manufacturing

- Machining
- Finishing

Procurement

QA

Important Information / Notices

Ryoki has a satellite sales office in Washington, US.
Contact: Chris.Klapheke@ryoki.co.jp / m-hattori@ryoki.co.jp

Representative

Yasuhiro Hara, President & CEO

Address

2-8-21 Takaki, Ichinomiya, Aichi
491-0837, Japan

Capital

US$150,000

Major Customers

MHI, KHI, FHI, Shin-Maywa, Nippi, HI
Mitsubishi Electric, Toyota Industries

TEL

+81-586-71-6792

E-mail

m-hattori@ryoki.co.jp
Sanko Hamono Co., Ltd.
株式会社 三光刃物製作所

Outline of Business
- Manufacturing, customization, R&D and sales of cutting tools
- Product line-up includes drills, end mill routers, and cutters for CFRP, GFRP composites, metals, and wood materials
- Trial and customization of cutting tools to suit each customer’s machine conditions
Sanko Hamono is a maker of industrial cutting tools and grinding tools, specializing in tool design, manufacture, repair, regrinding, and restoration. We provide tool manufacturing and repair services employing a comprehensive range of equipment including NC machining centers, wire cutting and brazing equipment, high-precision polishers, tool grinders, profiling machines, and inspection machines.

Our Strengths
- Our latest products include drilling and milling tools for carbon (CFRP) / glass (GFRP) composite materials, which are superior in preventing burr edges and delamination of composite layers and in extending tool life with special coatings

Facility & Equipment
- Flexible tool grinder (ANCA)
- Lathe (Mazak)
- Machining center
- Profiling NC milling machine
- NC lathe
- Wire cut machine
- Inspection machine (Zoller)
- CAD 2D, 3D etc.

Sales Amount
US$1.7 million (2014) ($1 = ¥120)

Important Information / Notices
Product Line-up for Composite Machining
[Burr-free and delamination-free]
- Fiber drills
- Boring bits
- Fiber routers
- Compression routers
- Hole cutters
- Honeycomb cutters, etc.

For more information, visit our website at www.sanko-cutler.co.jp, where videos show the technical advantages of our tools and prototype development.

Burr-free and Delamination-free
Drill and End Mill Router for Composites
- General problems in composite machining include poor cutting of carbon and glass fibers:
  - Burr edges occur and deburring is needed
  - Delamination reduces production yield
  - Decline in machining speed
- Special bit geometry for composites cleanly cuts the fibers:
  - No need for deburring process
  - Improved machining process yield
  - Reduced tool exchange
  - Faster processing using suitable cutting tools

Trial Service of Special Drill & End Mill Router
Our technical strengths include the customization and development of a cutting tool profile to suit each material and the customer’s machining conditions. We offer a trial service based on analysis of the machining situation, and then design the tool specifications for on-site trial in the customer’s process.
Outline of Business

- Machining of ultra-precision parts, from aerospace engine parts to civilian-use water valves
- Machining of steel, aluminum, stainless steel, titanium alloy, nickel-based superalloy

The length of the bottom section of the solar panel is 57 m, the exact length of the H-2B rocket developed in Japan.

Our Strengths

- We have more than 40 years’ experience in manufacturing aerospace parts such as rocket engines and hydraulic equipment.
- We have much experience and skills in machining difficult-to-cut materials such as Inconel, Haynes and Waspaloy with lathes, 5-axis machining centers and electrical discharge machining.
- We machine ultra-precision parts such as main engine parts for the H-2A/B rocket, second-stage motor parts, fuel control valves, and parts for civil aircraft engines.
- Our company policy is to “Keep challenging what others hesitate to try”.

Facility & Equipment

- Large 5-axis machining center ... 3 units
- Machining center ................. 12 units
- NC jig borer .................... 3 units
- Universal jig borer ............. 1 unit
- Large NC lathe .................. 5 units
- NC lathe .......................... 8 units
- NC vertical lathe ............... 3 units
- NC wire-cut EDM .............. 5 units
- NC wire-cut machine .......... 4 units
- Gun drill ......................... 2 units

Sales Amount

US$5.8 million (2014) ($1 = ¥120)

Organization

Employees: 60

Important Information / Notices

- We are a member of MASTT (Meiyu* Aerospace Support Technology Team), which consists of 24 regional engine parts manufacturers and can undertake integrated manufacturing of engine parts. We plan to expand not only domestically but also internationally as a member of MASTT.
Outline of Business

Design, Develop, and Manufacture Aerospace Electrical Equipment
- Electrical power systems
- Electro-mechanical actuation systems
- Stores management systems
- Hoists & Winches
- Aircraft/Airport ground support equipment

Customer service
- Repair & Overhaul
- Periodic inspection and maintenance
- Engineering support

Research and Development
- Various Critical Elements for MEA
  (More Electric Aircraft)

Our Strengths

Total solution
Based on knowledge and technology we have accumulated through long experience with electrical power generator development, we have become only one total solution provider of airborne electrical power system in Japan.

In-House Design
We have solid capabilities of design and engineering. We are reputed to be capable for the best result tailored to customers’ requirements.

Facility & Equipment

Ise plant is fully equipped with manufacturing tools and machineries for our Aerospace key components.

Aerospace Production Exclusive Building in Ise plant
Ground Floor: Machining, Testing, Shipping
2nd Floor: Manufacturing, Assembling, Special Processing (Clean Rooms)
3rd Floor: Engineering, Administration, Experimenting, Repairing

Main Features
- Fully Air-Conditioned Environment
- Anti-Dust Environment
- Isolated High-Accuracy Machining Room
- Clean Room Facilities
- Complete Facility for Development Test

Sales Amount

JPY 82.0 billion / Outlook in 2015fy
(USD 683 million) ($1 = ¥120)

Organization

Company Profile / Contact

Representative
Kozo Furutani

Capital
JPY 10.1 billion
(USD 84 million) ($1 = ¥120)

Major Customers
JSDF, MHI, KHI, PH, JSV, JAMCO, HI, etc.

Address
100 Takegahana-cho, Ise,
Mie 516-8550, Japan

TEL
+81-596-36-3335

E-mail
sinfonia-aerospace@sinfo-t.jp
TAKAGI CHEMICALS, INC.
株式会社 髙木化学研究所

CERTIFICATION

WEBSITE
http://takagi-kagaku.co.jp/english/

Outline of Business
Takagi Chemicals, Inc. was the first company in Japan to work on recycling of plastics. With many patents and deep expertise, we conduct R&D in line with customer needs. We have set technology standards in various fields, such as recycling of PET bottles and resin coating for clips and clamps, etc.

Main Products
- Automobile parts, forklift parts/automatic warehouse parts, and motorcycle parts
- Plastic injection molding products for automobile interior parts and outboard engine parts
- Polyester short fiber, cotton and sound-absorbing materials

Our Strengths
- R&D to meet customer requirements
- Development and manufacture of three types of products (metal, resin, and fiber products)
  1. Metal: Small-lot production of many products, production without dies, and short-term delivery in Japan by laser machining (handling 4000 items), surface treatment (coating and plating) and welding
  - Supply of parts for prototypes and mass production
  - Fabrication of dies for mass production
  - Development of specific types of aircraft clamps
  2. Resin: Commodity and engineering plastic products, two-color molding products, assembly
  3. Fiber: Any color, light- and flame-resistance without halogenated flame retardants
- Technology for recycling PVC, nylon, and polyester since the company’s foundation
- Track record of supplying aeroparts (metal parts)

Facility & Equipment

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC milling machine</td>
<td>1</td>
<td>Makino milling machine 550×320×300</td>
</tr>
<tr>
<td>NC lathe</td>
<td>1</td>
<td>Okuma Corporation</td>
</tr>
<tr>
<td>Tapping center</td>
<td>1</td>
<td>Brother Industries</td>
</tr>
<tr>
<td>5-axis machining center</td>
<td>1</td>
<td>DMG 735×650×560 (to be installed in December 2015)</td>
</tr>
<tr>
<td>CAD software</td>
<td>4</td>
<td>Dassault CATIA V5 R22</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Siemens NX9</td>
</tr>
<tr>
<td>CAM software</td>
<td>1</td>
<td>Mitsubishi Electric CAM Magic</td>
</tr>
<tr>
<td>CAM software</td>
<td>1</td>
<td>Hyper Mill Open Mind</td>
</tr>
</tbody>
</table>

Company Profile / Contact

Representative
Hiroyuki Takagi

Capital
US$250,000 ($1 = ¥120)

Major Customers
Toyota Industries Corporation
Honda Motor Co., Ltd.
Suzuki Motor Corporation

Address
21-1 Horita, Ohbata, Okazaki, Aichi 444-3502, Japan

TEL
+81-564-48-3016

E-mail
info@takagi-kagaku.co.jp

Product photos
Sheets metal working
Resin working
Oil-less bearing
Colored short fiber
Car floor mat
Flame-retarding fiber
Outline of Business

- Production of metal plate parts for aircraft
- Production of small-size sheet metal parts for B777, B787, B767, GX, MRJ, F-15, etc.
- Production of metal plate parts for entrance doors, etc. for buses
- Production of large refrigerators for professional use

Our Strengths

- Production of parts for aircraft
  Provision of metal plate parts for civilian aircraft, combat aircraft and rockets
  Contribution to flight safety by meeting all requests concerning quality control and manufacturing processes

- Production of parts for buses
  Provision of parts for entrance doors, emergency doors, side doors to roof bows and other parts
  Integrated manufacturing process from blanking process, sheet metal stamping to sub-assembling such as welding, adhesion, etc.

- Production of large refrigerators, etc.
  Ice stockers and ice crushers: Production and assembly of stainless steel outer plates and other metal plate parts. Safe packing and shipping of completed products: food machinery designed for hygiene and the environment

Facility & Equipment

- For aircraft:
  - NC router processing machine … 1220×2440×t8 (mm)
  - NC turret punching press ……… 1270×1270×t2 (mm)
  - NC milling machine …… stroke X=820, Y=520, Z=410
  - 80t press machine, etc.
  - Deburring machine
  - 36t bending machine
  - Shearing machine

- Others:
  - 3D laser processing systems
  - NC turret punching press
  - 500t double-crank press
  - 80t bending press, etc.
  - Shearing press
  - Welding robot
Takasago Electric, Inc.
高砂電気工業 株式会社

CERTIFICATION
AS9100/JISQ9100/EN9100, ISO9001
WEBSITE
http://www.takasago-fluidics.com/

Company Profile

Outline of Business
- Solenoid valves, check valves and pilot valves for hydraulic or pneumatic systems
- Air/gas valves for ventilation and oxygen supply systems
- Pinch valves and liquid control devices for beverage service, galley and lavatory equipment
- Proportional valves for fuel control
- Electrical actuators (solenoids)
- Precisely machined metallic and plastic parts
- Various fluid control devices for space experiments

Our Strengths
- High-level of quality control from the 40-year experience in the medical industry
- Custom design solution and high-mix low-volume production to meet various customer needs
- Customization and miniaturization to make your system lightweight
- Manufacturing facilities in Japan and China, and sales offices in Japan, U.S. and China
- In-house manufacturing; precision machining, assembling in a cleanroom, function testing, etc.

Facility & Equipment

<table>
<thead>
<tr>
<th>Process Category</th>
<th>Manufacturer</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic Processing</td>
<td>EGURO LTD.</td>
<td>10EX</td>
</tr>
<tr>
<td>Metal Processing</td>
<td>5-axis Grinding Machine</td>
<td>ROKU-ROKU Co., Ltd.</td>
</tr>
<tr>
<td></td>
<td>CNC Lathe</td>
<td>Mazak Corporation</td>
</tr>
<tr>
<td>Combined Lathe</td>
<td>Nakamura-Tome Precision Industry Co., Ltd.</td>
<td>Super NTMX</td>
</tr>
<tr>
<td></td>
<td>CITIZEN MACHINERY CO., LTD.</td>
<td>Cincom A32</td>
</tr>
<tr>
<td></td>
<td>Makino Milling Machine Co., Ltd.</td>
<td>a-51</td>
</tr>
<tr>
<td>Molding</td>
<td>Injection Molding Machine</td>
<td>TOSHIBA MACHINE CO., LTD.</td>
</tr>
<tr>
<td>Measuring</td>
<td>Coordinate Measuring Machine</td>
<td>Carl Zeiss</td>
</tr>
</tbody>
</table>

Our Products
- Solenoid valves, check valves and pilot valves for hydraulic or pneumatic systems
- Air/gas valves for ventilation and oxygen supply systems
- Pinch valves and liquid control devices for beverage service, galley and lavatory equipment
- Proportional valves for fuel control
- Electrical actuators (solenoids)
- Precisely machined metallic and plastic parts
- Various fluid control devices for space experiments

Important Information / Notices
- Selected by the Ministry of Economy, Trade and Industry as one of "300 of Japan's Vibrant Monozukuri (Manufacturing) SMEs"
- Certified by SONY Corporation as a Green Partner

Company Profile / Contact

Representative: Managing Director, Naoya Asai
Capital: US$ 750,000  ($1 = ¥120)
Major Customers: Shimadzu Corporation, GE Healthcare Bio-Solutions AB, Hitachi High-Technologies Corporation, etc.
Address: 66 Kakitsubata, Narumi-cho, Midori-ku, Nagoya, Aichi 459-8550, Japan
TEL: +81-52-891-2301
E-mail: info@takasago-elec.co.jp

Our Strengths
- High-level of quality control from the 40-year experience in the medical industry
- Custom design solution and high-mix low-volume production to meet various customer needs
- Customization and miniaturization to make your system lightweight
- Manufacturing facilities in Japan and China, and sales offices in Japan, U.S. and China
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Our Products
- Solenoid valves, check valves and pilot valves for hydraulic or pneumatic systems
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Company Profile / Contact

Representative: Managing Director, Naoya Asai
Capital: US$ 750,000  ($1 = ¥120)
Major Customers: Shimadzu Corporation, GE Healthcare Bio-Solutions AB, Hitachi High-Technologies Corporation, etc.
Address: 66 Kakitsubata, Narumi-cho, Midori-ku, Nagoya, Aichi 459-8550, Japan
TEL: +81-52-891-2301
E-mail: info@takasago-elec.co.jp

We provide a wide range of fluid control devices for various applications, ensuring high-quality and precision in our products. Our commitment to quality control and customization is evident in our diverse range of products, which are designed to meet the needs of various industries, including medical, aerospace, and automotive. With our in-house manufacturing capabilities and state-of-the-art facilities in Japan and China, we are able to offer high-mix low-volume production that is tailored to meet the specific requirements of our customers. Our experience in the medical industry, coupled with our expertise in customization and miniaturization, enables us to develop lightweight and efficient systems for aerospace, medical, and other applications. We are proud to be selected as one of Japan's Vibrant Monozukuri SMEs and are committed to meeting the highest standards of quality and sustainability in our work.
Company Profile

TAMADIC Co., Ltd. 株式会社 タマディック

CERTIFICATION JISQ9100, ISO9001, ISO14001, ISO/IEC27001, OHSAS18001,
WEBSITE https://www.tamadic.co.jp/

Outline of Business

- TAMADIC engineers are assigned various duties in the design phase, such as design and analysis of aircraft and support for rocket launchings etc.
- TAMADIC manufacturing engineers support leading-edge manufacturing technologies as production planners and tool engineers etc.
- TAMADIC designs and manufactures jigs, tools, and equipment.

Our Strengths

Overall know-how, experience, and high engineering capabilities based on over 50 years history in the aerospace industry.

Facility & Equipment

- CAD License : Total 319
  - CATIA V4/V5 .............................................45
  - Pro/E ......................................................10
  - Autodesk Product Design Suite ..........76
  - SolidWorks ................................................14
  - MSC NASTRAN/PATRAN .......................4
  - UniDraf.....................................................17
  - MicroCaelom .............................................24
  - CADRA ....................................................38
  - AutoCAD LT .............................................37
  - MATLAB ..................................................1
  - MATLAB ..................................................1
  - etc.

Sales Amount

Annual sales : 11,710 million yen
(March 31, 2015)

Organization

Employees : 938
(as of April 2015)

Company Profile / Contact

Representative Toshihiko Morizane
Capital US$ 825,000 ($1 = ¥120)
Major Customers MH, KH, TOYOTA, NISSAN, MELCO
Address Nagoya Itochu Building 3F, I-5-11 Nishi, Naka-ku, Nagoya, Aichi 460-0003, Japan
TEL +81-52-209-6711
E-mail prir@tamadic.co.jp

Flight simulator for entertainment
Rocket engine test equipment
Computer analysis graphics
TAMAGAWA INDUSTRIES, LTD.

Outline of Business

- Manufacture of parts for aircraft, space equipment, and nuclear power equipment
- Design and manufacture of hydraulic equipment, various testing equipment, and jigs & dies
- Structural sub-assembly and parts repair of aircraft

Our Strengths

- We have more than 40 years of experience of manufacturing aerospace parts, where high quality and reliability are essential. We actively accept difficult jobs, with our keen curiosity and ambitious engineering spirit.
- We have technologies such as machining difficult-to-process materials (nickel based alloys), machining composite materials (CFRP, etc.), and manufacturing functional parts of missiles.

Sales Amount

US$8,433,000 / 2015fy

Organization

Total Employees: 100

- President/CEO
- Manufacturing
- Production Control
- Sales
- General Affairs
- Production Engineering
- Machinery
- Finishing & Assembly
- Aerospace Structure Assembly

Company Profile / Contact

Representative
Takahiko Yoshida

Capital
US$100,000

Major Customers
Mitsubishi Heavy Industries Ltd., Daicel Corporation, Toyoy Industries, Inc.

Address
1218-18,Jifuku,Kaguya-cho, Kasugai, Aichi, 480-0304, Japan

TEL
+81-568-88-6551

E-mail
tamagawa@md.ccnw.ne.jp
Company Profile

TAMAGAWA SEIKI CO., LTD.
多摩川精機 株式会社

CERTIFICATION
JIS Q 9100, Nadcap, ISO/TS 16949, ISO 9001, ISO 14001, etc.

WEBSITE
http://www.tamagawa-seiki.co.jp

Outline of Business
Tamagawa Seiki has long specialized in the development and manufacture of aerospace instruments, gyroscopes and defense-related equipment, ever since the company was founded in Kamata, Tokyo in 1938. Based on a long history of production and installation in aircraft with the Japan Defense Agency, the company’s aviation business has been expanding for commercial aircraft with Tier 1 or Tier 2 integrators in recent years.

Business Contents
- Angular sensors and motors for pilot control system, flight control system, etc. for commercial aircraft
- Resolver, LVDT (linear variable differential transformer), RVDT (rotary variable differential transformer), and DC brushless motors
- Aircraft electrical equipment, gyros, inertial measurement instruments
- Electro-mechanical actuators such as throttle quadrant assy, landing gear actuators, etc.
- Motion control systems for factory automation
- Angular sensors for drive motors of hybrid electric vehicles and electric vehicles

Our Strengths
Tamagawa has detailed know-how of the production equipment used to produce such components. Most of the equipment can be built in-house, which is our major advantage.
Not only for factories but also vehicles, Tamagawa has succeeded in the market. The company supplies various resolver products for eco-friendly cars, proof of our high quality with very low failure rate.
A unique plant that integrates technologies for three key transportation means, producing products for automobiles, aircraft, and trains on the same floor.

Facility & Equipment
Examples of equipment for qualification/certification

Important Information / Notices
Tamagawa has full confidence in its ability to develop excellent products by:
- Providing a stable supply of high-reliability products by manufacturing in Japan
- Continuously reducing costs, from development to series production
- Reflecting knowledge and reliable techniques obtained through previous developments in new programs
- Immediate resolution of quality problems

Sales Amount
US$382 million (2014) (Non consolidated)
US$467 million (2014) (Consolidated for Tamagawa Group)

Organization
TAMAGAWA Group (15 subsidiaries)

Company Profile / Contact
Representative
Shigeo Seki, President & COO
$100,000,000

Capital

Major Customers
Toyota, Mitsubishi Heavy Industries, Ltd., Mitsubishi Electric Corporation, ABB
Automation Technology Products AB, Rockwell Collins, Ministry of Defense, JAXA, etc.

Address
1020 Kega Iida, Nagano 395-8520, Japan

TEL
+81-(0)265-21-1814

E-mail
tadasu-takigawa@tamagawa-seiki.co.jp

Company Profile / Contact

Facility & Equipment
Examples of equipment for qualification/certification

Important Information / Notices
Tamagawa has full confidence in its ability to develop excellent products by:
- Providing a stable supply of high-reliability products by manufacturing in Japan
- Continuously reducing costs, from development to series production
- Reflecting knowledge and reliable techniques obtained through previous developments in new programs
- Immediate resolution of quality problems

Sales Amount
US$382 million (2014) (Non consolidated)
US$467 million (2014) (Consolidated for Tamagawa Group)

Organization
TAMAGAWA Group (15 subsidiaries)

Company Profile / Contact
Representative
Shigeo Seki, President & COO
$100,000,000

Capital

Major Customers
Toyota, Mitsubishi Heavy Industries, Ltd., Mitsubishi Electric Corporation, ABB
Automation Technology Products AB, Rockwell Collins, Ministry of Defense, JAXA, etc.

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1020 Kega Iida, Nagano 395-8520, Japan

TEL
+81-(0)265-21-1814

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tadasu-takigawa@tamagawa-seiki.co.jp

Facility & Equipment
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$100,000,000

Capital

Major Customers
Toyota, Mitsubishi Heavy Industries, Ltd., Mitsubishi Electric Corporation, ABB
Automation Technology Products AB, Rockwell Collins, Ministry of Defense, JAXA, etc.

Address
1020 Kega Iida, Nagano 395-8520, Japan

TEL
+81-(0)265-21-1814

E-mail
tadasu-takigawa@tamagawa-seiki.co.jp
Outline of Business

- **Aerospace Parts:**
  - Accessory gear box, manifold, housing, cylinder head, crankcase, …
- **Manufacturing Processes:**
  - Sand casting and 5-axis machining with 3D printing
- **Special Processes:**
  - Welding, heat treating, material testing laboratories, chemical processing, non-destructive testing

Our Strengths

- **We make aircraft lighter than ever**
- **Innovative 3D-Print Manufacturing**
  - Super-flexible sand pattern casting for unrestricted designing
- **Magnesium Casting and Machining**
  - Extremely light metal for engine components

Facility & Equipment

| Sand Casting | Al and Mg for aerospace, low-pressure and differential-pressure casting, 3D-printing sand core |
| Machining    | MAKINO T1 XYZ (1500 x 1300 x 2000mm) |
|             | MAKINO a81nx XYZ (900 x 900 x 1020mm) |
|             | MAKINO a82 XYZ (1100 x 850 x 1020mm) |
|             | DMG MORI NVL XYZ (φ1600 x 1350mm) |
|             | 20 machines in total for aerospace |

Sales Amount

Investment for Aerospace

Important Information / Notices

A Taiwan branch was established in Taichung in 2014, as a joint venture with AvioCast Inc.

Company Profile / Contact

- **Representative:** Koichi Komai
- **Capital:** US$830,000
- **Major Customers:** KHI, IHI, SPP, Toyota, Yamaha, Nismo, Nabtesco, Aisin AW
- **Address:** 28-2, Higashikagatsume-machi, Kanazawa, Ishikawa 920-0209, Japan
- **TEL:** +81-76-237-9400
- **E-mail:** kohei@tanida.co.jp
Our Strengths 1/2

1. Integrated Manufacturing System from Planning to Assembly
Tech Sasaki offers integrated manufacturing from production planning to designing and fabricating jigs to completion of assembly, by mobilizing the managerial resources of the Aerospace Division and internal group companies.

2. Newest Technologies for Handling Composite Materials
We have been accumulating technologies for processing composite materials for various aircraft, the use of which is expected to increase, and have reinforced our technological capabilities to meet modern needs.

3. Quality Assurance System
Tech Sasaki is JIS Q 9100 : 2009 certified, has a division which maintains the quality management system, and has established a solid control system for supplying high-quality products.

Outline of Business

- 1. Aircraft: Aircraft structural assembly, design and fabrication of tools and jigs
- 2. Conveyance equipment: Design and manufacture of conveying apparatus such as ceiling cranes
- 3. Industrial facilities: Design and manufacture of air-conditioners and sanitary plumbing systems
- 4. General-purpose compressors: Sales and maintenance

Company Profile / Contact

<table>
<thead>
<tr>
<th>Representative</th>
<th>Hirokazu Sasaki</th>
<th>Address</th>
<th>4-9-21, Jinguu, Atuta-ku, Nagoya, Aichi 456-0031, Japan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital</td>
<td>US$833,000</td>
<td>TEL</td>
<td>+81-52-678-7811</td>
</tr>
<tr>
<td>Major Customers</td>
<td>Mitsubishi Heavy Industries, Ltd.</td>
<td>E-mail</td>
<td><a href="mailto:tech@ssk-gp.co.jp">tech@ssk-gp.co.jp</a></td>
</tr>
</tbody>
</table>

Our Strengths 2/2

4. Engineer and Assembly Worker Dispatch
It has been 20 years since we launched the aircraft project, under which we provide staff with both excellent assembly skills and expert knowledge of the aerospace industry.

5. Various Technologies
We have applied various technologies of other divisions to aerospace manufacturing sites.
- Conveyance Equipment Division (design, construction, and sales of ceiling cranes, etc.)
- Industrial Facility Division (design and construction of dust-free chambers, paint shops, etc.)
- General-Purpose Compressor Division (pneumatic power sources and maintenance)
TEKNIA Co., Ltd.
株式会社 TEKNIA

WEBSITE | http://www.teknia.co.jp

Outline of Business

Parts for machine tools, industrial machines, and aerospace

TEKNIA has highly sophisticated machining technologies backed by the company’s 100-year history. Recently we have focused on reducing costs by effectively using our plant in Thailand.

Our Strengths

1. High-level machining technology
   A variety of machining tools and skilled craftsmen with sophisticated technologies (lathes, NC lathes, multi-lathes, milling, drilling, and grinding in the machining center)

2. Materials and sizes handled
   Difficult-to-cut materials such as high hardness steel (4340), stainless steel (15-5ph), titanium (6Al4V)
   Sizes: φ50-800mm, φ50-600mm (material sizes)

3. Own processes, tools, and equipment planning
   Our policy is to build our own tools and equipment, and thus plan and develop the fastest, most efficient ways of manufacturing.

Facility & Equipment

NC lathe ............... 46
Mill turn center ......  6
Machining center ...... 35
5-axis ................  3
MCM ..................  1

Sales Amount

¥1,000 million/2015

Organization

QA .....................  5
Sales ..................  2
Administration ......  4
Engineering ..........  20
Manufacturing ...... 120
4 factories:
   - Nagoya Factory
   - Aisai Factory
   - Gujo Factory
   - Thai Factory
US Head office ......  1

Important Information / Notices

As a third-tier supplier, we supply machined parts for aircraft equipment, especially motors, generators, gear boxes, hydraulic units, etc.

Company Profile / Contact

Representative | Hiroshige Takahashi
Capital | US$940,000
Major Customers | DMG, IAC, Sinfonia Technology
Address | 3-459 Ematsu, Nakagawa-ku, Nagoya, Aichi 454-0954, Japan
TEL | +81-(0)52-303-3347
E-mail | ishida@teknia.co.jp
Company Profile

TENRYU AERO COMPONENT CO., LTD.

Outline of Business

- Fabrication of aircraft parts (sheet metal parts and composite parts)
- Sub-assembly of aircraft airframe
- Design, development and manufacture of aircraft equipment (various seats, containers and racks)

Our Strengths

- Aerospace industry
  - We plan jig fabrications by receiving drawings and specifications from our customers, and manage all processes from parts fabrication (molding and special processes) to assembly.
- Update of special processes
  - We improve facilities in special processes (surface treatment, heat treatment, painting, etc.). We are able to introduce an integrated production system in cooperation with heavy industries and partner suppliers in the region and aim to expand overseas.
- Certifications of strict quality control
  - We have obtained JIS Q 9100 and Nadcap special process certifications for non-destructive testing and composite materials. Various tests are conducted under these global standards to ensure the quality of products and services in the aerospace business.
- Safety of seats
  - Aircraft seats are required to have ultimate safety. Our actual loading tests and state-of-the-art computer analysis enable us to confirm world-class safety.

Facility & Equipment

<table>
<thead>
<tr>
<th>NO.</th>
<th>Name</th>
<th>QTY</th>
<th>Model</th>
<th>Manufacturer</th>
<th>Specifications &amp; Ability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hydraulic rudder press (1000t)</td>
<td>1</td>
<td>DPC-1000</td>
<td>Kawasaki Hydromechanics Corp.</td>
<td>1800N × 2500L (mm)</td>
</tr>
<tr>
<td>2</td>
<td>Heat treatment furnace</td>
<td>1</td>
<td>FU-340/ELR-340</td>
<td>Trinity Industrial Co., Ltd.</td>
<td>13000N × 3100L × 2200H (mm)</td>
</tr>
<tr>
<td>3</td>
<td>Heat treatment furnace</td>
<td>1</td>
<td>FU-120/ELR-120</td>
<td>Trinity Industrial Co., Ltd.</td>
<td>10000N × 2000L × 800H (mm)</td>
</tr>
<tr>
<td>4</td>
<td>Chemical coating treatment line</td>
<td>1</td>
<td>-</td>
<td>Tsumura Chemical Industry Co., Ltd.</td>
<td>10000N × 2500L × 1500H (mm)</td>
</tr>
<tr>
<td>5</td>
<td>Anodic coating treatment line</td>
<td>1</td>
<td>-</td>
<td>Tsumura Chemical Industry Co., Ltd.</td>
<td>10000N × 2500L × 1500H (mm)</td>
</tr>
<tr>
<td>6</td>
<td>Automatic riveting machine</td>
<td>1</td>
<td>DRK-3</td>
<td>BRQ7-E</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Automatic riveting machine</td>
<td>1</td>
<td>DRK-2</td>
<td>BRQ7-E</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Autoclave furnace</td>
<td>1</td>
<td>-</td>
<td>Ashida Mfg. Co., Ltd.</td>
<td>ϕ2.0(m)×6.0(m) Humidity: 250°C max.</td>
</tr>
<tr>
<td>9</td>
<td>Autoclave furnace</td>
<td>1</td>
<td>-</td>
<td>Ashida Mfg. Co., Ltd.</td>
<td>ϕ3.0(m)×6.5(m) Humidity: 250°C max.</td>
</tr>
<tr>
<td>10</td>
<td>Dynamic testing apparatus</td>
<td>1</td>
<td>-</td>
<td>Seattle Safety LLC</td>
<td>50G</td>
</tr>
<tr>
<td>11</td>
<td>Static load testing apparatus</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Fire-resistance testing apparatus</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Oil burner apparatus</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Endurance testing machine</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Custom hardness measurement apparatus</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Coordinate measuring machine</td>
<td>1</td>
<td>CRT-A123010</td>
<td>Mitutoyo Corporation</td>
<td>120SW × 300SL × 100SH (mm)</td>
</tr>
</tbody>
</table>

Sales Amount

- Annual Sales:
  - US$42.7 million (fiscal 2014)
  - US$40.5 million (fiscal 2013)
  - US$37.1 million (fiscal 2012)
  - US$34.5 million (fiscal 2011)
  - US$30.2 million (fiscal 2010)

Organization

- Employees: 511
- Board of Directors:
  - Makoto Fukunishi - President
  - Kazuhiro Shiga - Director
  - Ryoouo Hirata - Director
  - Isamu Nakamura - Director
  - Ya Ihara - Corporate Auditor

Company Profile / Contact

Address: 1-1 Sohara Koa-cho, Kakamigahara, Gifu 504-0814, Japan
TEL: +81-58-382-6431
E-mail: aireigyou@tenryu-aero.co.jp
TOHMEI GROUP (TOHMEI Ind.)

Outline of Business
- Assembly of aerospace structure
- Periodic inspection and maintenance of aircraft
- Design and manufacture of fixtures, assembly tools and mechanical devices
  (electrical, hydraulic, pneumatic servo-control technology)
- Manufacture of advanced composite products
- Manufacture of special containers for aircraft and space equipment

Our Strengths
- Aerospace industry
  Assembly, painting and installation of aerospace structures
  Design and manufacturing of assembly tools
  Transportation of aerospace products with special packing services
- Inspection and test equipment
  We propose and fabricate a wide range of devices fully utilizing our electrical, hydraulic, and pneumatic
  servo-control technology.
- Advanced composites including design
  The Tohmei Group produces advanced composite products through our integrated production system.
  Design and stress analysis including tooling, fabrication, assembly, and painting.
  Design ....................... Tohmei Engineering Co.
  Fabrication ............... PNC Co., Ibaraki Ind.
  Assembly & painting ... Tohmei Ind.

Facility & Equipment
- Automatic riveter
- Paint booth .................. (L: 18m, W: 5m, H: 5.5m)
- Autoclave ..................... (D: 2m, L: 9m, max 200°C)
- Thermoplastic 80t press ...... (600 × 600 mm, Max: 450°C)
- NDI, CMM
- CATIA V5, NASTRAN

Organization
Employees: 1,500

Company Profile / Contact
Representative Akira Ninomiya
Capital US$830,000
Major Customers MHI, KHI, FHI
Address 2-11 Shinkatanaike, Chita, Aichi
TEL +81-562-54-1881
E-mail info@tohmei.com

Company Profile

Facility & Equipment

Organization

Sales Amount
US$100 million (2014)
TOYO KOKU DENSHI Co., Ltd. (TKD)
東洋航空電子 株式会社

**CERTIFICATION**

**WEBSITE**
http://www.tokoden.co.jp

---

**Outline of Business**
- Manufacture of electrical wiring harnesses
- Installation of wiring harnesses
- Design and manufacture of automatic circuit testing equipment
- Design and manufacture of ground support equipment

---

**Our Strengths**
- We have 48 years of experience in the manufacture & installation of wiring harnesses.
  - Products: B787, DASH-8-400, MU-2, MU-300 (BEACHJET 300)
  - Installation: MRJ, B787, DASH-8-400, GX, MU-2, MU-300
- Best quality, cost and delivery
  We can mass-produce while maintaining the best QCD because we have facilities for manufacturing exclusive harness boards and automatic circuit testing equipment.

---

**Facility & Equipment**
- Laser marking machine: CAPRIS50-300 (Spectrum Tech.) …… 2
- Automatic circuit testing equipment (our product) ……………… 2 (5,400 points, 1,150 points)
- Braiding machine: custom-made (Kokubun Ltd.) ……………… 3

---

**Sales Amount**

![Graph showing sales amount]

<table>
<thead>
<tr>
<th>Year</th>
<th>US $ (Thousand) / ($1.00 = ¥120)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
</tr>
</tbody>
</table>

---

**Organization**

<table>
<thead>
<tr>
<th>Employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>245</td>
</tr>
</tbody>
</table>

---

**Company Profile / Contact**

**Representative**
Kazuaki Niwa

**Capital**
US$800,000 ($1 = ¥120)

**Major Customers**
MHI, Ltd., FHI, Ltd., KHI, Ltd., IHI Aerospace Co., Ltd., Nihonkai Corporation, NEC Corporation, Toshiba Social Infrastructure Systems Company

**Address**
63-1 Kakihata, Inuyama, Aichi

**TEL**
+81-568-67-2160

**E-mail**
info@tokoden.co.jp
TOYO SEIKO Co., Ltd.

Outline of Business

- Shot-peening processing of aerospace parts under contract
  - Nadcap (surface enhancement)
- Sales of Almen strip, Almen gage and Magna valves for the aerospace industry
  - TOYO SEIKO is a distributor of Electronics Inc. (US shot-peening products) in Japan.
- Sales of Conditioned Cut Wire (aerospace approved)
- Sales of Coverage Checker
- Residual Stress Measurement

Our Strengths

- For more than 40 years, TOYO SEIKO has been manufacturing and selling Conditioned Cut Wire, which is used in the aerospace and automotive industries. We specialize in shot-peening, and have expanded to conduct, under contract, shot-peening processing of aerospace parts since 2006. TOYO SEIKO is Nadcap-certified for surface enhancement.
  - We perform shot-peening for suppliers to The Boeing Company.
  - We can help your business from test production to mass production.
  - We develop and sell Coverage Checkers.
  - We can measure residual stress for verifying peening quality.

Facility & Equipment

Aerospace Division

- Shot-peening processing equipment
  - Large wheel type (Parts size: 900×1100mm)
  - Large air type (Robot) (Parts size: 1000×1500mm)
  - Small wheel type (Parts size: 200×500mm)
  - Small manual air type (2 machines)
- Inspection devices
  - Two X-ray diffractometers for residual stress measurement
  - Almen gage, Ro-Tap sieve shaker

Sales Amount

<table>
<thead>
<tr>
<th>Year</th>
<th>TOYO SEIKO</th>
<th>TOYO SEIKO THAILAND</th>
<th>TOYO SEIKO NORTH AMERICA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>31.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>31.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>31.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>31.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Important Information / Notices

Subsidiaries

- TOYO SEIKO THAILAND CO., LTD.
  Mtg. & sales of Conditioned Cut Wire
  Bangpoo Industrial Estate, Samutprakarn, Thailand
  Tel +66-2-324-0046
  Email: info@toyoseiko.co.th

- TOYO SEIKO NORTH AMERICA, INC.
  Sales of Conditioned Cut Wire
  South Bend, IN, USA
  Tel +1-574-288-2000
  Email: sales@toyoseiko-na.com

Company Profile / Contact

Representative
Yoshihiro Watanabe (President)

Capital
US$208,333 (¥25,000,000)

Major Customers
MHI, KHI, FHI, IHI, Toyota, Nissan, Honda, Subaru, NIK Spring, Chuhatu

Address
3-195-1 Umaganji, Yatomi, Aichi 490-1412, Japan

TEL
+81-567-52-3451

E-mail
toyo@toyoseiko.co.jp
Company Profile

TOYOTA BOSHOKU CORPORATION
トヨタ紡織 株式会社

CERTIFICATION
Production and Inspection Approval by JCAB

WEBSITE
http://www.toyota-boshoku.com

Outline of Business

- 1) Design, development and manufacturing of aircraft passenger seats
- 2) Development of automotive interior systems and manufacturing and sales of automotive interior products
- 3) Manufacturing and sales of automotive filters and powertrain components
- 4) Manufacturing and sales of other automotive components
- 5) Manufacturing and sales of fabric goods

Product Information

As a supplier of interior systems for automobile manufacturers, Toyota Boshoku provides integrated and effectively coordinated interior components such as seats, door trims, headliners, floor carpets and others.

In April 2015, Toyota Boshoku delivered its very first aircraft passenger seats to All Nippon Airways Co., Ltd. (ANA), Japan’s leading and only 5-star airline. The seats are installed on ANA B767-300 aircraft for domestic service.

The project brought together ANA's experience and expertise in the aviation sector, with Toyota Boshoku’s high-quality craftsmanship and manufacturing capabilities, which have been refined over decades of experience providing seats for a variety of automobile lines.

Our Strengths

- Our new aircraft passenger seat is ergonomically developed for comfort across a wide range of body sizes and types, based on Toyota Boshoku’s experience designing seats for customers around the world, which have included compact, luxury and racing cars.

Facility & Equipment

- Flammability test equipment (for Bunsen burner)
- Static test equipment

Sales Amount

Total consolidated fiscal year sales in US million dollars ($1 = ¥120)

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>8,996</td>
</tr>
<tr>
<td>2013</td>
<td>10,153</td>
</tr>
<tr>
<td>2014</td>
<td>10,679</td>
</tr>
</tbody>
</table>

Organization

Chief Executive for Aviation
Cost Planning and Evaluation
Quality Assurance
Production and Production Engineering
Research & Development Design, Certification
Marketing and Sales Purchasing

Company Profile / Contact

Representative
Shuhei Toyoda, Chairman
Yoshimasa Ishii, President

Capital
US$70 million ($1 = ¥120)

Major Customers
All Nippon Airways (ANA)
Toyota Motor Corporation

Address
88, Kanayama, Kamekubi-cho
Toyota, Aichi 470-0395, Japan

TEL
+81-565-43-2335 (Makishima, Sales)

E-mail
yasuhiro.makishima@toyota-boshoku.com
Tsuchiya Group
株式会社 槌屋（グループ概要）

CERTIFICATION
ISO 14001, ISO 9001, MSJ 4000

WEBSITE
http://www.tsuchiya-group.co.jp

Outline of Business
- Manufacturing and distribution of printings (striped tapes, caution labels), paints, resins, ceramics, adhesives, tapes, textiles, magnets and many other kinds of chemical products for the automotive, aerospace, business machine and housing industries.

Our Strengths
- Embracing the company motto “Creativity and Challenges”, the Tsuchiya Group has been expanding since its establishment in 1950, with sales offices, R&D centers and factories around the world.
  - Distribution: Our major products are paints, resins, tapes, adhesives and textiles guided by various property information from more than 500 suppliers.
  - Development: Development of new products through the combination of R&D, sales and suppliers, based on the latest material technologies.
  - Printing: Rapid provision of high-quality products to market through our own development process from designing to finalizing product specifications.
  - Textiles: Provision of textile brushes, sealing materials developed for cushioning, noise-prevention and air sealing.

Sales Amount
US$1.2 billion (¥95,400 million)
(fiscal year 2014, domestic)

Organization
Employees: 1,500 (Domestic)

Company Profile / Contact
Address
2-9-29, Kamimaezu, Naka-ku, Nagoya, Aichi 460-8330, Japan
TEL
+81-52-747-3204
E-mail
tsanami@tsuchiya-group.co.jp

Representative
Koichi Ohara, President & CEO

Capital
US$8.08 million
(Domestic only)

Major Customers
Toyota Motor Corporation, / Mitsubishi Heavy Industries, Ltd., Kawasaki Heavy Industries, Ltd., / Fuji Heavy Industries, Ltd., Denso Corporation, Asakusa Co., Ltd., Mitsubishi Motors Corporation

Address
2-9-29, Kamimaezu, Naka-ku, Nagoya, Aichi 460-8330, Japan
TEL
+81-52-747-3204
E-mail
tsanami@tsuchiya-group.co.jp
Usetech Co., Ltd.
有限会社 ユーズテック

Certification: EN 9100:2009
Website: http://www.usetec.co.jp

Outline of Business
“Our advanced equipment, technologies and skilled operators provide reliable products for customers.”
- Manufacturing of intricate aerospace parts by precision machining and cutting
- Manufacturing of high volumes of automotive parts (up to 5-digit parts production per day)
- Manufacturing of low-volume aerospace and rail vehicle parts
- Inspection for all parts with designated and calibrated measuring devices and tools

Our Strengths
- Can supply a wide range from simple parts to intricate parts to meet customers’ requests.
- Can manufacture and procure difficult-to-cut-materials such as Invar, titanium, Kovar, as well as aluminum alloys.
- Utilizing our 3D coordinate measuring machine, we can ensure accurate measurements and production to meet customers’ requirements at affordable prices.

Facility & Equipment
Machining Centers:
- FANUC
- Matsuura
- Matsuura
- Matsuura
- Matsuura
- Toyotakoki

Presses:
- Aida
- Washino

Measuring Instruments:
- Accretec 3D coordinate machine
- High-precision cutting machine
- Drilling machine/Tapping machine

Organization
Employees: 50

Company Profile / Contact
Representative: Norio Ueyanagi, President
Capital: ¥5 million
Major Customers: Yuta Sanai Co., Ltd.
Mino Industry Co., Ltd.

Address: 5005-18 Kanae Kiriishi, Iida, Nagano 395-0807, Japan
TEL: +81-265-56-1210
E-mail:usetec@usetec.co.jp
WADA Aircraft Technology Co., Ltd.

Outline of Business

- Design and manufacturing of jigs and tools for the aircraft and space industry
- Manufacturing of parts for the aircraft and space industry

Our Strengths

- Processing systems
  - We perform design, manufacturing, assembly and quality assurance as well as maintenance and reworking of molding jigs for composites and sheet metal, positioning jigs, inspection jigs and assembly jigs. We have state-of-the-art facilities and systems to satisfy various customers’ requirements.
- Rubber forming dies
  - We have been manufacturing rubber forming dies for sheet metal since our establishment 50 years ago. We continue to develop original systems to ensure stable quality and low cost.

Facility & Equipment

<table>
<thead>
<tr>
<th>Group</th>
<th>Specifications (X Y Z)</th>
<th>Maker</th>
<th>Number</th>
<th>Model name</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-axis machining center</td>
<td>324×114×56 [max.] (8,250×2,900×1,450mm)</td>
<td>SNK</td>
<td>6</td>
<td>RB300F, 250F, 200F MILLAC 1000VH</td>
</tr>
<tr>
<td>3-axis machining center</td>
<td>62×24×22 [max.] (1,600×610×560mm)</td>
<td>Okuma</td>
<td>9</td>
<td>MILLAC 611V2, 561V</td>
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<tr>
<td>CNC 3-dimensional measuring device</td>
<td>35×62×23 [max.] (900×1,600×600mm)</td>
<td>Mitutoyo</td>
<td>1</td>
<td>Crysta-Ape+916</td>
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<tr>
<td>Laser tracker</td>
<td>-</td>
<td>API</td>
<td>1</td>
<td>Tracker3</td>
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<tr>
<td>3D CAD</td>
<td>CATIA V5</td>
<td>Dassault Systemes</td>
<td>8</td>
<td>ASO, HD2</td>
</tr>
<tr>
<td>5-axis 3D CAM</td>
<td>Mastercam</td>
<td>CNC Software</td>
<td>6</td>
<td>5-axis</td>
</tr>
</tbody>
</table>

Company Profile / Contact

Representative
Noriyuki Wada, President

Capital
US$80,000 million

Major Customers
MHI

Address
72-1 Gogashima, Haruhi, Kiyosu, Aichi 452-0962, Japan

TEL
+81-52-401-4711

E-mail
info@wadass.com
Outline of Business

Additive manufacturing solutions:
- 3DMaterials: Powder manufacturing/supply
- 3DXpertise: Design/redesign (Simulation and topological optimization)
- PRISMADD: 3D printing manufacturing (Parameter optimization)

Manufacturing services:
- Yamaichi Special Steel: Special steel supply, Ultra-precision machining, Heat treatment, Measurement (ISO 17025)

Our Strengths

We offer world-leading additive solutions for the aerospace industry.

AM Solutions: Topological optimization for designs enables the reduction of material and volume, excellent surface condition, and best performance.
- Parameter optimization achieves the full potential of 3D printing systems.

Metal Powder: We supply the best metal powder for AM, including titanium, Inconel, and stainless steel.

Precision Machining: Our thermostatic controlled factory and YASDA machines ensure ultra-precision.

Heat Treatment: Our heat treatment with strain reduction and anti-aging system produce materials of the best quality.

Measurement: We guarantee ultra-precision machining by an ISO 17025 certified measurement system.

Sales Amount

15 billion yen

Organization

Employees: 200
Locations: Japan, Thailand, Vietnam
Partnerships: PRISMADD (http://prismadd.com/), 3DXpertise (http://www.3dxpertise.fr/)

Important Information / Notices

PRISMADD JAPAN is a joint venture established by Yamaichi Special Steel and PRISMADD, the pioneer of the AM industry in France. We provide support ranging from selecting the powder material (3D Materials) to manufacturing (PRISMADD) with designs and redesigns made by topology optimization and realistic simulation (3DXpertise), as well as post-processes such as heat treatment, precision machining and accuracy assurance (YSS). We have added the new capability of AM to our specialties of heat treatment and precision machining to take advantage of the characteristics of special steels. We offer one-stop solutions for sophisticated development of aerospace and aeronautic parts.

Company Profile / Contact

Representative: Motoharu Teranishi
Capital: US$667,000 ($1 = ¥120)
Major Customers: MHI, Toyota, Aisin

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Greater Nagoya Initiative Center (GNIC)

Greater Nagoya Initiative Center is to promote foreign direct investment and business alliance between overseas and Japanese companies.

About Greater Nagoya

One of Japan’s notable powerhouses of productivity is in central Japan, often referred to as the Greater Nagoya (GN). Greater Nagoya is defined as the area within a 100km radius of the Nagoya central business district covering Aichi, Gifu, Mie prefectures, the city of Nagoya at the heart of Japan.

A center of manufacturing prowess for well over a century, the region today boasts a total annual GDP of over $577 billion, large enough to place it among the top 20 world economies.

Greater Nagoya Initiative Center

Greater Nagoya Initiative Center (GNIC), a joint organization of national and local governments, industries and academia, is to promote foreign direct investment into Greater Nagoya region and business alliance between overseas and Japanese local companies in the region.

The One-stop Solution

In cooperation with affiliated organizations, GNIC provides “one-stop” services to overseas corporations interested in starting or expanding business into Greater Nagoya region. The below complimentary supporting services are provided free of charge.

1) Comprehensive information / consultation services
2) Delegation / Invitation Program
3) Business matchings / meetings arrangement
4) Business startup support
5) Continuous follow-up

Contact Information
Greater Nagoya Initiative Center (GNIC)
Address: C/O Public Foundation of Chubu Science and Technology Center
Ikko Osu Building 7F, Osu 1-35-18, Naka-ku, Nagoya, Aichi 460-0011, Japan
TEL: +81 (0)52-218-4020  FAX: +81 (0)52-204-1469  URL: www.greaternagoya.org

C-ASTEC
Chubu Aerospace Industrial Technology Center

C-ASTEC is committed to comprehensively promoting projects related to the advancement of the aerospace industry and technology, and to creating a global aerospace industry cluster in the Chubu region.

Outline of Business

1. Research and studies
2. Collecting and providing information and raising awareness
3. Technological assistance
4. Human resource development
5. Cooperation and exchange with related organization
6. Forming clusters and providing assistance in coordinating aerospace suppliers

Contact Information
C-ASTEC (Chubu Aerospace Industrial Technology Center)
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E-Mail: c-astec@c-astec.jp  TEL: +81-52-221-6681  URL: http://www.c-astec.jp.net/